

THE ILLUSTRATED LONDON NEWS.



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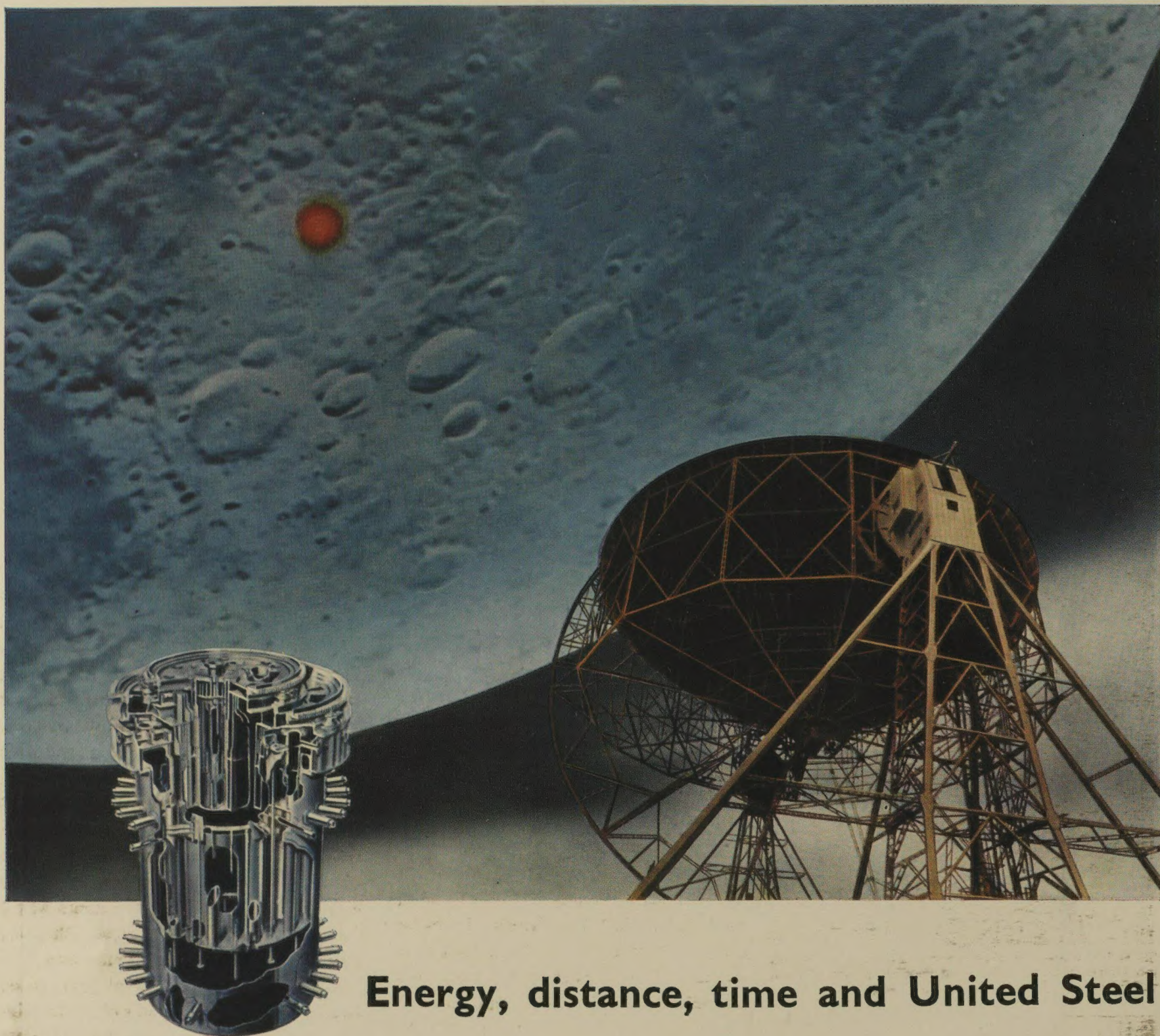
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United Steel, with an annual output of nearly 3 million tons of steel, meets many of the very exacting material needs of today. United Steel Structural Company built the radio telescope at Jodrell Bank (its reflecting bowl, 250 feet in diameter, was fabricated accurately to one eighth of an inch). The Samuel Fox Branch of United Steel produced stainless steel for the manufacture of the largest and most complicated vessel ever made from this material; this (shown above left) was fabricated by John Thompson Ltd. for the breeder reactor at Dounreay.

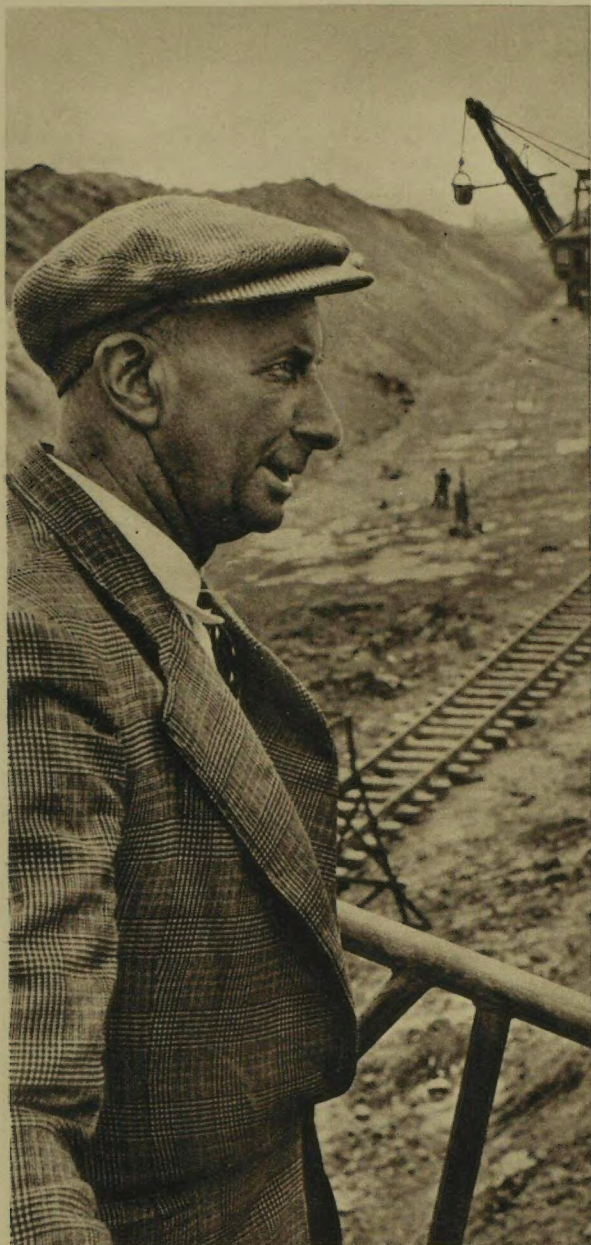


THE
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SHEFFIELD ENGLAND

Are these the happiest men in industry?

Ex-Picture Post reporter Trevor Philpott went to Corby and talked to five men whose life is steel. Pictures by John Chillingworth.



Sid Wright is proud of his 650 ton excavator, proud of his job. He remembers the plank and wheelbarrow days. "It's a satisfying sort of job, the way we do it today," he says.



Bertie Oliver works on relining the insides of Bessemer converters. He takes pigs' trotters to work as a snack.

EACH OF THESE MEN has worked a lifetime by the sweat of his brow. Each plays a vital part in what is now Europe's biggest and most modern tube works. Looking back over the years, they look back in pride.

Sid Wright looked down the quarry, wide and deep as the bed of a great river, towards the six hundred and fifty ton excavator which was peeling back the earth above the iron ore. "She does as much work in fifty seconds as I used to do in a full day's work. Course, it was wheelbarrows and planks then. Now it's railway trucks and steel track. Yes, it's a satisfying sort of job, the way we do it today. I've had a ton or two of ore out of Northampshire in forty years."

'Young Sketch,' whom a few know as George Patrick, tends the four great blast furnaces. He's built rather like a blast furnace himself. Resting his hands on his bay window, he said "Yes, there's a lot of beer gone into that. I need it. But it's not as hot now as in the war, when we had the furnaces covered so you couldn't see a wink from a few hundred feet up. Now you can see the glow forty miles away on the right night."

"I was here before Stewarts and Lloyds came, and I watched them build up this plant and take it down and build it up again. And blow me if my only daughter didn't marry a blast furnaceman. He's a supervisor already."

"Both sides must be pretty satisfied"

Bertie Oliver has been caring for the insides of Bessemer converters for forty-six years. "There's not much I don't know about those old ladies. I left a two-horse tram in 1911 to go on the steel plant at Bilston. I came up to Corby when they opened the new works in 1934. After the Black Country, the woods around here were a real treat. My boy's at the works, too, now and laughs his head off when I take pigs' trotters to eat on the shift."

Bill Muir came out from under the bonnet of his saloon car. "They used to say you could tell a steel man by the colour of his face," he said. "Well, look at me. Pale and

interesting. They load slab furnaces by watching television screens and pressing buttons, nowadays. Between us, my brothers and I have put in a hundred and thirty-one years' service with this firm. I suppose both sides must be pretty satisfied."

600 Gold Watches

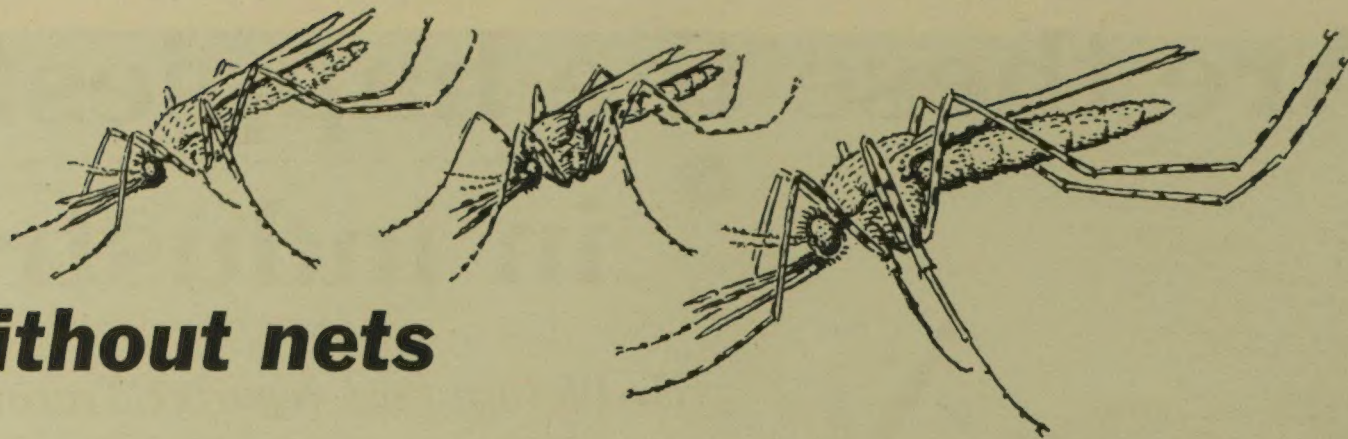
'Big Chiv' (full title Charlie Clitheroe) is over seventy and looks as strong as an ox. "Six bob a week errand boy, I started as. Then someone spotted I was a pretty big lad, and I got a job on the locos. It's been locos ever since. These we've got now are little beauties. Fire her right, keep her pressure up, and she'll do anything. Gives you a good appetite, too, this job. Seventeen bob's worth of meat I'll eat, at the week-end. My wife used to say to me, 'You never praise my food, do you Charlie?' 'I never leave none, do I?' I'd say to her. The boys ask me sometimes why I don't marry again. Well, a good wife's like a good job. One's enough for most men."

All these men possess a gold watch awarded to mark thirty years of service with the firm. There are over six hundred more like them at Corby, working still. Men who began in the Steel Industry, stayed with it, and helped it to grow. This is how they talk, as they near the end of a working life well spent.

This report was commissioned by the British Iron and Steel Federation, which believes that everyone should know the facts about Steel, and about the men and organisations that make it.



Charlie Clitheroe (better known as 'Big Chiv') is a loco man, brings in 1200 tons of ore at a time and gets through 17 bob's worth of meat at a week-end.



Night without nets

Night has a thousand small and secret sounds. Wind whisper and creak of board, sudden skitter of lizard feet, click and tap, slither and rustle, the ceaseless *crik-crik* of cicadas under the great glittering moon. And among those sounds, the thin, wavering whine of a killer: unseen in the darkness, riding on diaphanous wings, bringing each year disease and misery and death to millions in many parts of the world. It is estimated that in South East Asia alone, before malaria control was introduced, at least 50,000,000 cases occurred annually and that of these half a million died as a direct result of the disease. Today the menace is being driven from the scene by eradication campaigns like that in the Philip-

pines. Slowly but surely. Progressively. By degrees—and by insecticides like dieldrin. Used as a residual spray to kill malaria-carrying mosquitoes (chiefly *Anopheles minimus flavirostris*) and also as a larvicide, this powerful insecticide developed by Shell is playing a major part in a nation-wide house spraying campaign to eradicate malaria completely in the Philippines. Already results are greatly encouraging; in the *barrios* typical of the rural areas, sickness has fallen sharply, in some cases by as much as 75%, and infants are growing up free of the malaria menace. One day soon, it is believed, the night will be made safe for man, without nets. *And not only in the Philippines, but throughout the world.*



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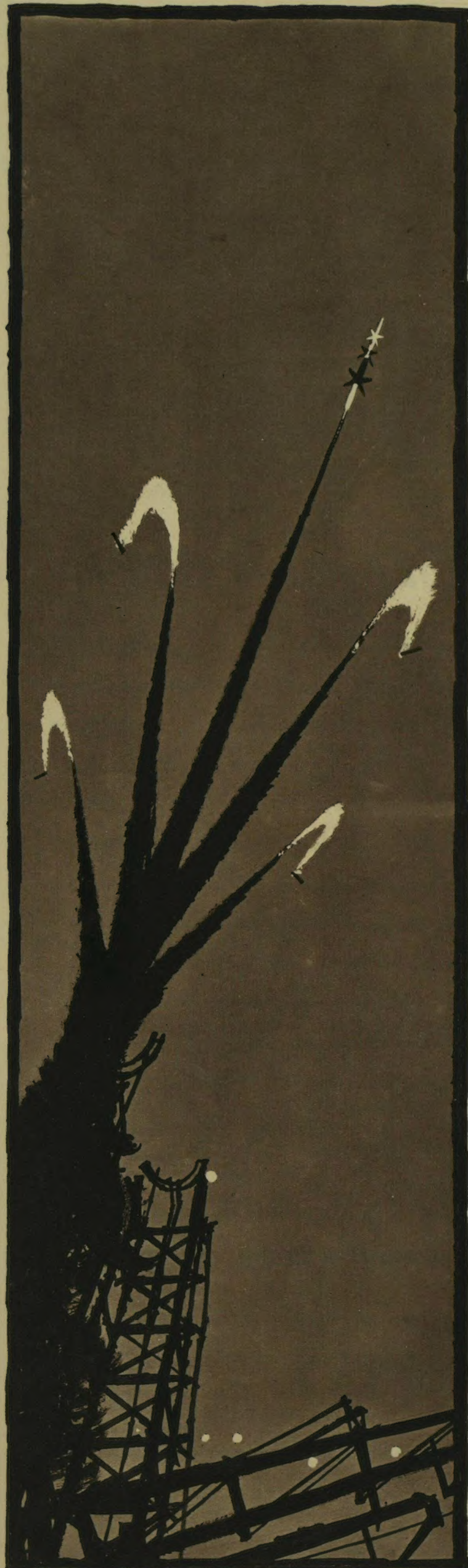
IF YOU'RE WALKING, can we recommend a shining steel stairway all the way to the moon? More than enough steel sheet for one has poured out of RTB's rolling mill at Ebbw Vale. But we should tell you there's a great demand for steel sheet, for every form of transport from children's cycles to airliners, for refrigerators and washing machines, just to start a very long list. And from the same steel is made the tinplate which, in products like food cans and bottle tops, is so very much a part of our everyday life. In fact,

if you wanted to live comfortably on the moon most of the things you would choose to take with you would have some RTB steel in them somewhere.

Whoever the first man on the moon may be, and how ever he gets there, RTB are ready to salute him. It will be a salute to a pioneer from an organization with a great pioneering tradition—for RTB have been responsible for almost every important development in British steel sheet and tinplate making in the past 50 years. And never were the twin traditions of pioneering and quality stronger among the firm's 25,000 workers in nearly 40 plants, than they are today.

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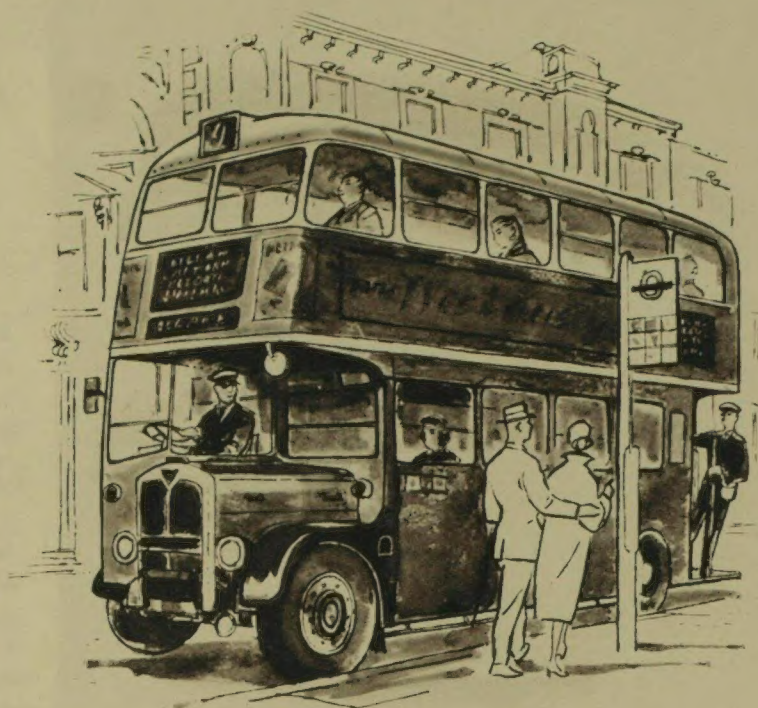
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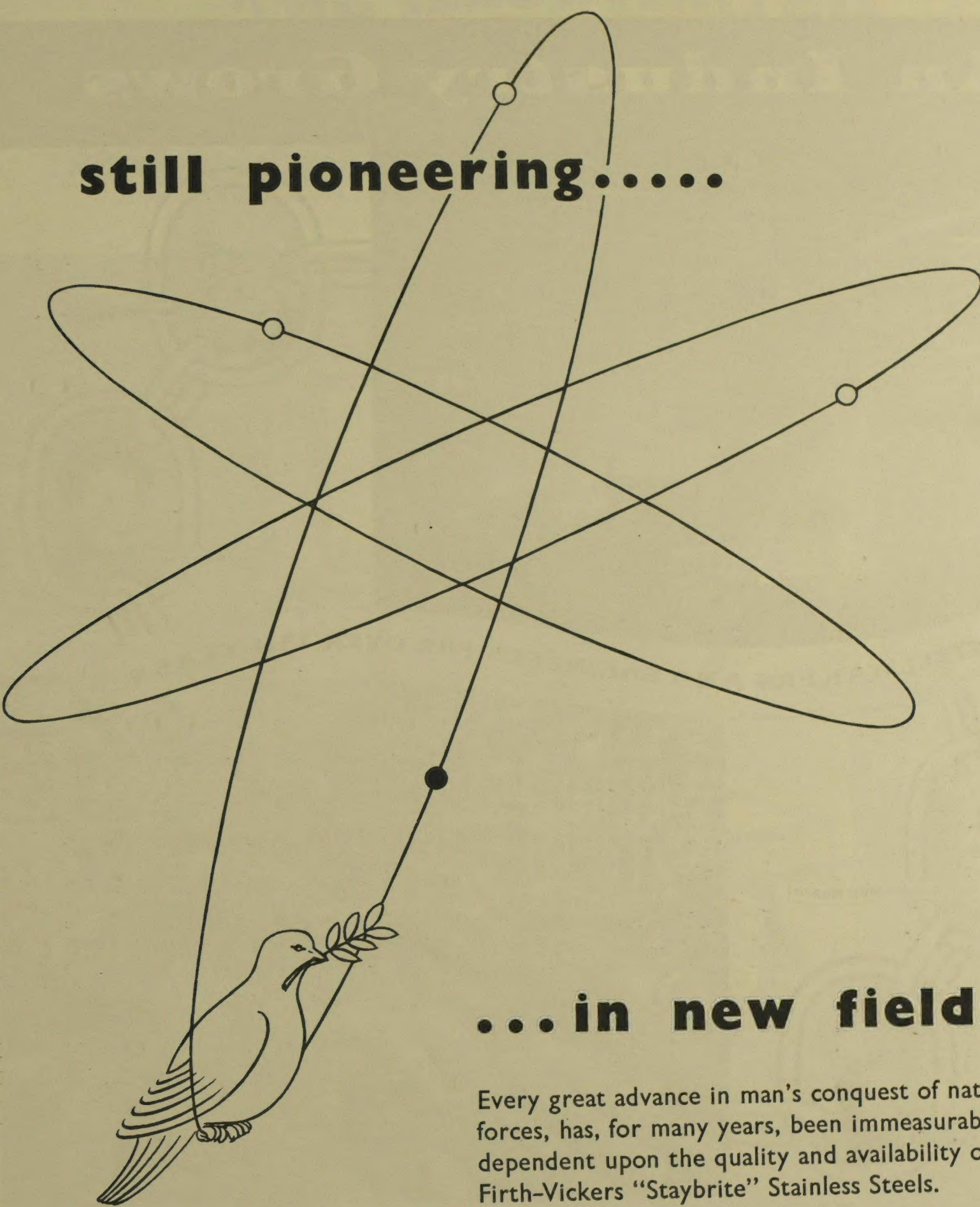
A bus-ride to Bangkok

Bangkok (as far as a business man is concerned) lies a little North of London Bridge. If you live in London, you can get there by bus. Ask for Gracechurch Street and get off at our office. There you will find a warm welcome and all the business facts and figures you want: not only from Bangkok, but from Bombay, Borneo, Singapore, San Francisco; in fact from all our offices in Asia, Europe and the United States. For ours is the biggest British bank in the Far East; we are intimately connected with its trade throughout thirteen countries there, and you are welcome to our knowledge and services.

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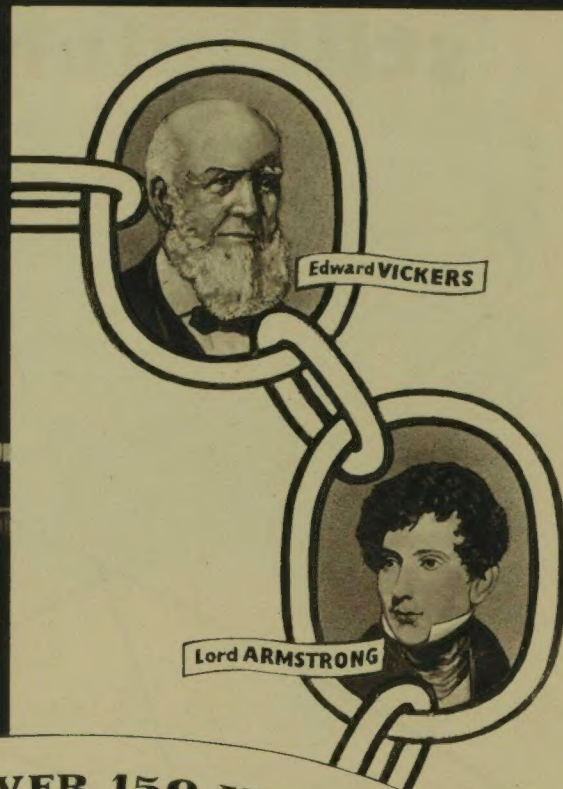
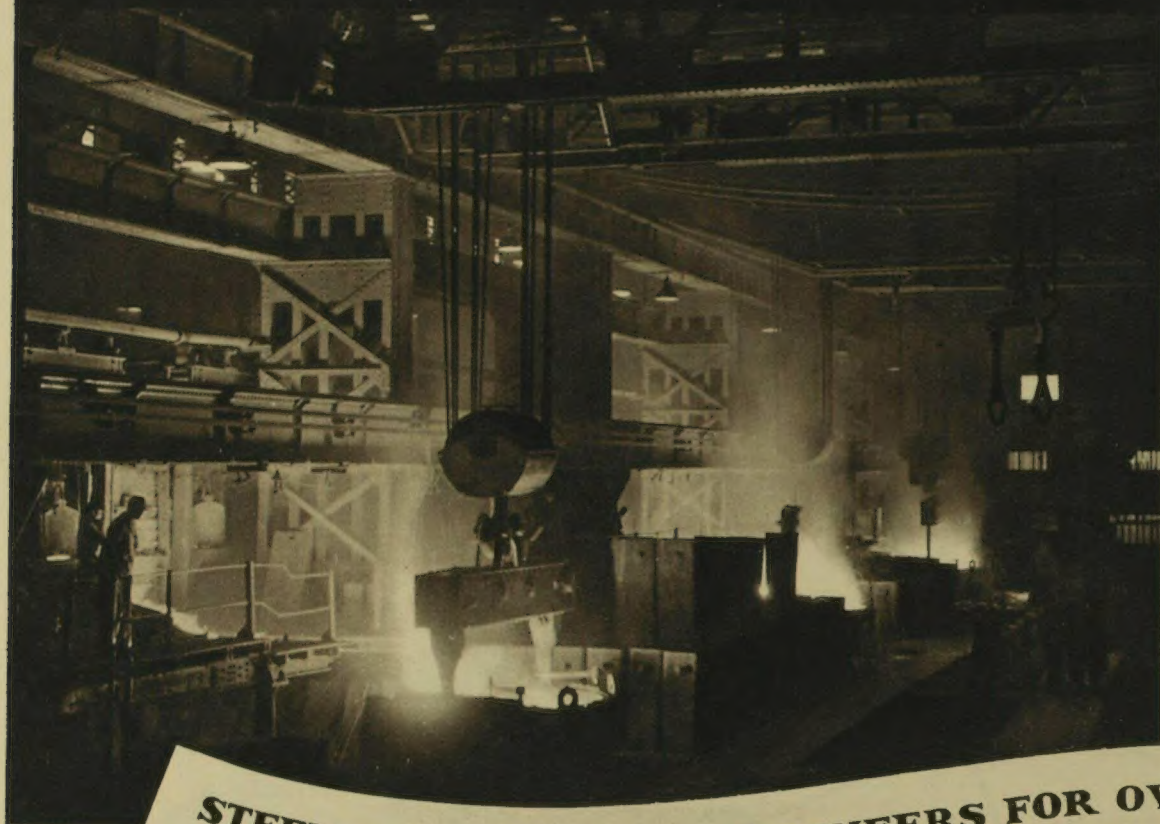
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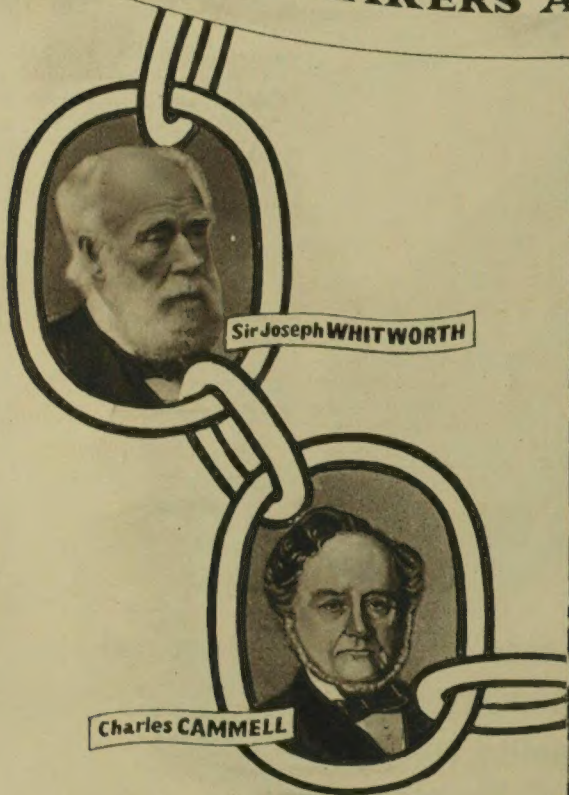
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SATURDAY, JANUARY 18, 1958.



IN AN INFERNO OF HEAT AND SPARKS: TAPPING "QUEEN VICTORIA," ONE OF BRITAIN'S LARGEST NEW BLAST FURNACES, AT THE APPLEBY-FRODINGHAM CO. WORKS AT SCUNTHORPE. THE FURNACE PRODUCES 1150 TONS OF IRON A DAY.

In a special supplement this week we are illustrating different aspects of a major and vital British industry, the production of iron and steel. To finance the development and expansion schemes of the iron and steel industry, which are of great importance for Britain's future prosperity, private savings must be invested on a large scale and anxiety is being expressed at present about the inhibiting effect on investors of the threat of re-nationalisation. In the photograph above is seen the tapping of one of Britain's newest and

largest blast furnaces, "Queen Victoria," which came into commission in 1954, at the works of the Appleby-Frodingham Company, a branch of the United Steel Companies Limited, at Scunthorpe, Lincolnshire. As the furnace is tapped, the molten iron which has been produced from the iron ore, coke and limestone is run off into huge ladles as the raw material for steel-making. From another tapping hole, placed at a higher level, slag, containing impurities, is also drained from the furnace. (Photograph by Adolf Morath.)



By ARTHUR BRYANT.

NOTHING new in this world can ever be achieved without leadership, and few things effective and efficient maintained for long without it. The tendency of mankind to lethargy, to rule-of-thumb, to drift and negation, is so strong that it requires an exceptional amount of vigour and initiative in an individual to overcome it and to get the human procession moving again. Leadership is needed and has to be found at all levels of society—at school, in the family, in a profession or trades union, in a locality, in science, in the world of books and arts, in the theatre, on the cricket or football field, or cliff-face. The youth

Who bore mid snow and ice
A banner with the strange device,
Excelsior!

is the type of leader in every age and everywhere. Such natural leaders of the race often make themselves ridiculous and often, too, lead their fellows in the wrong direction, but humanity would get nowhere without them. In a world made unquiet from Ghana to Indonesia, from Peking to Malta, by the clamour of self-appointed leaders of democracy, those of us who are allergic to uninhibited noise and self-advertisement must remember that most of the good things we inherit from the past originated once in something and someone of the same kind. From the nursery chair to the forum and the dictator's rostrum is only a step. One wishes at times that the species would grow up more quickly, but the recurrence of the leader from age to age seems to be the condition, though sometimes a restless and destructive one, of man's evolution and survival.

The supreme test of a national society is its capacity to throw up a multiplicity of leaders at all levels of the nation's life, as ancient Greece did or Britain between the accession of Elizabeth and the end of the nineteenth century. And the highest test of a great national leader is the power to create conditions in which such leadership at all levels flourishes, in which men of many types and aptitudes strike out new paths for themselves and their fellows. Such supreme leaders are, of course, rare, and even they can scarcely succeed unless they inherit from their predecessors, or those they have supplanted, a well-knit and reasonably homogeneous and disciplined society. Sometimes—very, very rarely—a leader arises who can create such conditions for all-level leadership, not merely in an existing nation but in the world as a whole. Christ was such a leader, and so, on a far lower and less all-embracing level, was Mahomet. But usually the great leader works within the framework of a nation—a Lincoln, a Lenin, a Louis Quatorze or Gandhi. It does not even have to be his own nation, for, provided he can understand and master it, a foreigner can set a whole people marching behind him; Napoleon was a case in point. And when a succession of such leaders for any reason arises a nation may become and remain great and produce works of creative greatness—in administration and the law, in arms and crafts, in agriculture, science and the arts—for generations and even centuries. Our own country, for instance, was blessed, though at the time they did not always seem blessings, by a sequence of remarkable rulers who by their

strong, vigorous leadership created conditions in which a strong, vigorous civilisation could flourish. Alfred was such a man and his heirs, Edward the Elder and Athelstan; so were William the Conqueror and his great-grandson, Henry II, and the churchmen, Dunstan, Langfranc, Anselm, A'Becket and Stephen Langton. So was Edward I, that lion-heart of a man, and the warriors, Edward III and Henry V, and most of that long Plantagenet succession of Christian kings and statesmen who, with all their short-comings, gave their island kingdom the rule and laws and inspiration out of which sprang the fourteenth- and fifteenth-century towers and spires that still form the rustic English skyline, the carols we sing at Christmas, the poetry and earthy humour of Chaucer, the parliamentary and legal institutions which we have since developed and given to more than half the world. And after them came other sovereigns, as great and even greater—Henry VII,

A NOTABLE TRANS-ANTARCTIC FLIGHT.



THE R.A.F. OTTER AIRCRAFT WHICH ON JANUARY 6 BECAME THE FIRST SINGLE-ENGINE AIRCRAFT TO FLY ACROSS THE ANTARCTIC CONTINENT.

Squadron-Leader John Lewis was the pilot of the R.A.F. Otter X1710 which landed at Scott Base at 10.49 p.m. New Zealand time on January 6, having flown the 1,250 miles from South Ice in 10 hours 57 minutes. During the flight the aircraft passed over Dr. Fuchs's tractor party and also over the South Pole. Squadron-Leader Lewis and his three companions were given a tremendous welcome on their arrival at Scott Base by other members of the Commonwealth Trans-Antarctic Expedition.

that "secretest" of men, who restored to the realm internal peace and financial solvency after the Wars of the Roses; his flamboyant, radical and untiring son Henry VIII—a popular tyrant if ever there was one, ruling by force of personality rather than arms; and, greatest of them all, Elizabeth. Even the temperamental and undependable Scottish Stuarts threw up leaders of a kind: Charles I, who by his faith and constancy in the hour of merited defeat and eclipse saved the hereditary monarchy and Church of England; Charles II, most consummate of politicians, who presided over, and by hook and crook—often crook—kept the peace and preserved the unity of the vigorous but quarrelsome island community that produced Wren and Newton, Milton and Purcell, Locke, Dryden and Bunyan; his niece, Queen Anne, who, seated passive on the throne, sent out Marlborough to save the liberties of Europe and Rooke to take Gibraltar, and reigned herself at home over a people whose craftsmen, unsurpassed in human history, made almost nothing which they did not render beautiful.

Since then, with the supremacy of Parliament, it has been politicians rather than sovereigns who have given national leadership to our country, though the personal part of at least one of her

later sovereigns, Victoria, ought never to be underestimated. Here, too, we have enjoyed a remarkable sequence of leadership on the national level—Walpole and Chatham, Pitt and Fox, and the great trumpet voice of Burke, Peel and Palmerston, Gladstone and Disraeli, Salisbury, Rhodes and Joseph Chamberlain. And when in each of the terrible storms that broke the polity of Christendom in the first half of the present century, the strong purpose of Britain seemed to waver under the shock of disaster, two of the greatest war leaders of all time, Lloyd George and Churchill, seized the swaying helm and steered the ship of state through tempest to victory. Nor, though ours has been an age of declining leadership in the West, have we been altogether without political leadership in peace. Great war leaders are seldom great peace leaders; our own Alfred was one of the few exceptions. Even Churchill, the most universal man of genius and widely acclaimed states-

man of our time, has made curiously little impress on our national policy except in war; his pre-war warnings of our peril and unpreparedness fell on deaf ears and the ideals he most cherished, like the preservation of the British Raj in India, have been almost universally repudiated by the people he served and led. But his two principal political opponents, both unspectacular men, and, therefore, foolishly regarded by many as mediocrities—the one a Socialist and the other a Conservative—made a profound impression on the nation's peace-time policy and development. The one, Clement Attlee, snatching power from the national saviour, Churchill, in the very hour of the latter's triumph, carried through a major social revolution without bloodshed and civil strife or, indeed, the slightest danger of either. The other, Stanley Baldwin, rising to fame and supreme office in the course of a few weeks in his middle fifties, restored unity and a sense of national confidence to a country dangerously divided by the class cleavage and bitterness that

followed the First World War. In the 'twenties and early 'thirties, with the popular Press against him and a largely uneducated electorate that had been trebled in 1918, and which no one at the time knew how to lead, this now much misrepresented statesman by sheer force of personal leadership made Britain one nation again instead of two. He may not have been a national prophet, like his critic, Churchill, but he was a great unifier, perhaps the hardest of all a parliamentary statesman's tasks. He did for England in her years of peace and recuperation what Elizabeth did for her in the first thirty healing and binding years of her reign, just as Churchill did for England in 1940 what Elizabeth did for her in 1588. And perhaps in our own and very different age some new leader will arise to do for our country the same service that he did. It may be more than a coincidence—the future will show—that in 1958, as in 1922, a quiet and unspectacular countryman, with the virtues and qualities that have always been associated with England, should have been suddenly called, almost unknown to the bulk of his countrymen, to the Exchequer at a moment when, more perhaps than at any other that I can remember, a divided nation is increasingly asking where its future leaders are to be found.

DR. VIVIAN FUCHS, THE COMMONWEALTH TRANS-ANTARCTIC EXPEDITION'S LEADER.



THE BRITISH AND NEW ZEALAND LEADERS TOGETHER: DR. FUCHS (LEFT) WELCOMES SIR EDMUND HILLARY ABOARD M.V. *THERON* AT MONTEVIDEO IN DECEMBER 1955.



AT SHACKLETON SEA-ICE AS *MAGGA DAN* SAILED FOR ENGLAND IN JANUARY LAST YEAR: DR. FUCHS (FOREGROUND) WITH DAVID PRATT.



DR. FUCHS SURVEYS THE PROBLEMS OF THE ANTARCTIC DURING A RECONNAISSANCE FLIGHT IN THE *OTTER* AIRCRAFT WHICH LATER FLEW ACROSS THE ANTARCTIC.



THE RESPONSIBLE LEADER OF THE WHOLE COMMONWEALTH TRANS-ANTARCTIC EXPEDITION: DR. VIVIAN FUCHS IN M.V. *THERON*, IN DEC. 1955.

Much has been made—at extremely long range—about an apparent quarrel between Dr. Fuchs and Sir Edmund Hillary about the future plans of the Commonwealth Trans-antarctic Expedition. The facts, however, appear quite straightforward. After reaching the Pole, Sir Edmund expressed the view that in view of the delays in Dr. Fuchs' party's programme and the heavy punishment his vehicles were sustaining, Dr. Fuchs would be unwise to continue his journey to Scott Base; and recommended that the British party should leave their vehicles at the Pole, fly out to Scott Base, and return

by air to the Pole next November to continue the crossing. To this Dr. Fuchs said that he had considered all the factors and that there was no question of abandonment and to return in November 1958 would be impracticable. It has been emphasised that this was a disagreement on policy and not a quarrel; and the committee of management of the expedition in London have expressed by telegram to Dr. Fuchs their "full confidence in you and your judgment as leader." At the time of writing, the latest news was that Dr. Fuchs' party were making good progress at 86 degrees 25 minutes South at a height of 7600 ft.

Photographs by courtesy of the Trans-antarctic Expedition.



NOT FAR FROM WHERE FINE MODERN BUILDINGS ARE BEING CONSTRUCTED: A MUD VILLAGE JUST OUTSIDE BAGHDAD.

Mr. R. M. Tiford, who contributed the photographs reproduced on this page, writes: "Baghdad is at present once more in the throes of being rebuilt, not, as frequently in the past, following the depredations of an enemy, but because of a wave of unprecedented prosperity. The money paid as royalties from the rich oilfields in the north of Iraq has pushed the national income up from two million pounds in 1950 to a peak of over seventy-five million in 1956. Another reason for the present building boom is the fact that for the first time in its history, the city is completely clear from the fear of floods. The great new barrage across

(Continued below.)



BEARING ENTHUSIASTIC CROWDS AFTER ITS OPENING BY KING FAISAL DURING LAST YEAR: ONE OF THE NEW BRIDGES ACROSS THE TIGRIS IN BAGHDAD.

(Continued.) The Tigris above Baghdad has proved that it can control the rising torrent in the spring when the snows melt in the headwaters on the Persian and Turkish borders. The barrage was completed in 1956, just in time to divert the flood-water of that year into the depression in the desert known as Wadi Thar Thar. When this depression eventually fills up it will add another sea to the map of the world larger in area than the Dead Sea, and by its cooling and humidifying effect probably change the climate of the whole region. Among the first major projects to be completed was the ultra-modern new railway station, its blue, mosque-like

(Continued above, right.)



EVIDENCE OF THE NEW BUILDING WHICH IS GOING ON IN THE CITY: PORTERS DELIVERING NEW FURNITURE.

REBUILDING BAGHDAD: THE REBIRTH OF AN ANCIENT CITY, MADE POSSIBLE BY OIL PROFITS AND



ONE OF BAGHDAD'S LARGE MODERN BUILDINGS: THE RAFIDAIN BANK, WHICH IS IN STRANGE CONTRAST WITH THE NEARBY EASTERN DOMES.

(Continued.) dome making an odd contrast to the functional façade. The building stands aloofly away from the existing railway tracks which, one day, in Allah's good time, will no doubt make it more than just the first monument to the oil era. Nearby a magnificent full-sized replica of the gates of the Biblical city of Nineveh, adorned with the genuine marble winged bulls taken from the excavations at the old Assyrian city of Khorsabad, stands ready as the imposing entrance to the uncompleted National Museum. The majestic curve of the new Rafidain Bank building dominates the skyline from the riverbank among the shining mosaics of the minarets, and futuristically-designed blocks of office rise incongruously in the most unexpected places cheek-by-jowl with the old brown brick-and-plaster buildings in their narrow, unpaved streets. The building of a new Royal palace for the young King was started in 1952 and is due

(Continued below.)



A FULL-SIZE REPLICA OF THE GATES OF NINEVEH, WHICH WILL FORM THE ENTRANCE TO THE NATIONAL MUSEUM WHEN IT IS COMPLETED.

(Continued.) to be ready for occupation at the end of 1958. At an estimated cost of five million pounds, and fitted with every conceivable modern amenity, it is probably the most ambitious palace project undertaken since the time of the old Assyrian kings, the vast remains of whose edifices lie scattered over the north of the country. Designed by the same British architect as the palace and rivaling it in the splendour of its stonework, the new Parliament building is slowly taking shape on another riverside site a mile or so away. Other large Government buildings now being planned are an American-designed opera house and a new block of offices for the Development Board which is to be entrusted to an Italian architect, while the American Government is to build a new Embassy near the palace. Apart from these more spectacular single structures, a great effort is now being made to provide proper housing conditions for some of the city's three-quarters of a million population, the great majority of which at present live in indescribable squalor in miles of closely-packed mud-houses on the eastern side of Baghdad. A scheme has been started to build 25,000 houses in new suburbs in the next five years. Each community area will have its own playing-fields and civic centre and even a little plot set aside as a "gossip square" for the women. The houses will vary from a one-roomed "box" in a small courtyard for a labourer earning £2 10s. per week, to a seven-roomed two-storey house for a

(Continued above, right.)

OF AN ANCIENT CITY, MADE POSSIBLE FLOOD CONTROL.



A RAILWAY STATION AWAITING THE ARRIVAL OF ITS RAILWAY: THE NEW BAGHDAD STATION, BUILT BEFORE THE LINES WERE DIVERTED TO IT.

(Continued.) High-ranking public official. The planning of these estates has been entrusted to a Greek firm, and they have recommended that the first stage should be the building of a technical school where 1500 workers a year can be trained as building tradesmen. The housing problem for the whole of Iraq will require two more training schools, and it is planned to build a total of half a million houses in the next twenty-five years, as well as 1500 miles of main roads. A master plan for the future development of Baghdad has been drawn up which provides, among other things, for a medical city which will incorporate hospitals and medical, nursing, pharmacy and dental schools. New, wide streets will be carved through the city on both sides of the river which will be spanned by no fewer than five new bridges, the first two of which were opened last year. And finally, a large new airport is to be constructed. Every year the

(Continued below.)



KING FAISAL'S PALACE IN BAGHDAD WHICH, WHEN COMPLETE, WILL RIVAL IN MAGNIFICENCE THOSE OF ASSYRIAN KINGS OF 3000 YEARS AGO.

(Continued.) Government will hold a Development Week, when the newly-completed projects in Baghdad and the surrounding country will each be officially opened by the King. Special commemorative stamps were issued last year in March when the Week started with the opening of the two new bridges in Baghdad. One of these is planned to take the load off the famous Rashid Street, until now the main artery of Baghdad, but in recent years completely choked with large, gaudily-coloured American cars, their Arab drivers incessantly tooting their strident horns in the stifling mile-long traffic jams. Other schemes inaugurated during the Week were a cotton textile factory in Mosul, and a cement factory in the Kurdish town of Sulaimaniyah. Foundation-stones were laid by the King for the giant \$16,000,000 barrage at Dukan, for a sugar refinery in Mosul and for the new museum in Baghdad. Meanwhile, the ancient hotels along the riverfront in Baghdad patiently try to cope with the continual influx of European businessmen and technicians who come to advise and tender for the increasingly ambitious new projects. The mounting contrast between ancient and modern in old Baghdad grows more evident every day. Ragged and veiled beggar-women flock like vultures round the modern bookshops where the Europeans buy their air-mail editions of the Western daily papers. The clean, single-deck red buses jostle with the decrepit shooting-brake type of country bus in which sheep and goats ride on an equal

(Continued above, right.)



BUILT TO PROVIDE PROPER HOUSING FOR SOME OF THE CITY'S POPULATION OF THREE-QUARTERS OF A MILLION: A NEW BAGHDAD HOUSING ESTATE.

(Continued.) footing with the passengers either inside or on the roof. Crowds of colourfully-clothed Kurds from the mountains gaze wonderingly at the television sets being demonstrated in the shop windows. Within a mile of the Baghdad Pact Nuclear Centre is the festering morass of mud dwellings without drainage or water supply. On the outskirts of the city the nomadic tribes of Bedouins pitch their black tents for the night as they pass on their way with their camels and donkeys and sheep, and the peasant ploughs the parched earth with his oxen and wooden plough

(Continued below.)



SIDE BY SIDE WITH THE REGAL MAGNIFICENCE OF THE KING'S PALACE: THE FINE PARLIAMENT BUILDING UNDER CONSTRUCTION.

(Continued.) exactly as he has done since Biblical days, while overhead the Iraqi Airways' Viscounts whistle gracefully in to land with a load of exoticly-gowned Sheikhs from Kuwait or a bevy of businessmen from Europe. In its present state, the country is like a butterfly half-emerged from the chrysalis—not quite one thing or the other. Every Iraqi knows that if the oil which is the life-blood of the West should for any reason cease to flow from Iraq for any length of time, the miracle of transformation which he is witnessing to-day will die, as did nearby Babylon, and all that would be left would be a fantastic puzzle for the archaeologist of a future age."



ONE OF THE PRIMITIVE TYPES OF DWELLING STILL IN COMMON USE: A HOUSE MADE OF MATTING IN A BAGHDAD SUBURB.

A HERO OF ANTARCTIC EXPLORATION.

"SHACKLETON." By MARGERY AND JAMES FISHER.*

An Appreciation by SIR JOHN SQUIRE.

IT is thirty-five years since Sir Ernest Shackleton died in his cabin in the *Quest*, his last ship, then anchored at Grytviken, in South Georgia. He was given an imposing funeral in Montevideo, and then taken back, as was right and proper, to be buried in that bleak and mountainous island which had seen one of the most difficult and heroic of his journeys, and which was on the fringe of that great Antarctic wilderness which he had done so much to explore. A year later Dr. Mill wrote a "Life" of him, which was an impressive and valuable document. And now, with multifarious expeditions swarming over Antarctica in honour of the International Geophysical Year, with the Russians hoisting a flag with a Red Star on it on an uninhabited, save by seals and penguins, island in the traditionally British South Shetland group, with American aeroplanes sojourning comfortably at the South Pole, with Hillary having reached the Pole from one direction and Fuchs (as I write) creeping towards it from another, there appears a very big book about Shackleton which may be drawn upon by future summarisers but which can surely not be superseded. The actual writing, it seems, has been done by Mrs. Fisher. The collection of materials has been the business of her husband, who has had access to the Shackleton Family Papers, including the explorer's worshipping letters to his wife, and has gone round with a tape-recorder, that novel accessory to biography, taking down memories from every accessible person who served with Shackleton.

Even if we temporarily ignore (a difficult thing) Shackleton's personality, his relations with his men and with the outside world, this is a very rich book. Shackleton was a very impetuous man. But, so far as exploration was concerned, he was a very practical one. He foresaw, after hesitation, the use that might be made of aeroplanes and motor-tractors in Antarctic exploration. His guesses were sometimes wrong; whose were not? He thought that the North Pole was on solid land, which it is now deemed not to be. But he was acute enough in his diagnosis of the Antarctic problems. In 1911-1912 Scott and Amundsen reached the South Pole, Scott to arrive there second, see the Norwegian flag hoisted, and crawl back towards his base, and tragically near his temporary home, die with his comrades, and leave, in the last pages of his diary, a message for his countrymen which ought to endure "till the last syllable of recorded time." Shackleton took the chair at a Queen's Hall meeting where Lieutenant Evans (of the *Broke* and later Lord Mountevans) paid his tribute to the expedition. So the mere Pole was no longer an object to Shackleton. But he simply had to do something. "The more difficult it seemed to Shackleton to find a way back to the south, the more determined he became. We do not know how he put it to his wife, but by the autumn of 1913 he was once more sounding the rich men of his acquaintance. For this purpose he had prepared a typed proposal which opened boldly with the statement of his aim: 'To cross the South Polar Continent from sea to sea—from the Weddell Sea to the Ross Sea.' His comments on this ambitious idea were, first, that 'From the sentimental point of view, it is the last great Polar journey that can be made,' and, secondly, that 'From a geographical point of view, the complete continental nature of the Antarctic can be solved by such a journey.' That's what they

have been finding out in the last few weeks and months with instruments which can take soundings through 7000 ft. of ice from rocks below.

Had Shackleton been privy to these soundings he would at once have wondered "Is there coal, is there gold, is there uranium?" Our authors say about this utterly brave, utterly self-sacrificing, explorer that to him there was always a crock of gold at the rainbow's end. He most certainly wished to get to places which no man before him had ever reached; but he also thought of Buried Treasure. Therein lay one of his links with the great Elizabethans, Sir Walter Raleigh in particular; he was an explorer who recked little of his life, he was a man with a poetic outlook, and he was a born romantic company promoter. It must be remembered that Sir Walter promised people "El Dorado." Shakespeare might just as well have written:

always with him. He was an adept at capping quotations, and he could recite long passages from "Paracelsus," of all dusky poems. But his own metrical compositions were sad doggerel; he had not learnt the art of accuracy and merely wrote down, as any bright boy of thirteen might have done, the sort of things that he thought a genuine poet would write down. A similar inadequacy of expression comes out in his letters, especially the earlier ones, to his wife. She was a tall, sensible, handsome, dignified woman, who in later life became a capable organiser of Girl Guides. But he could hardly write a sentence to her without addressing her as "Child"—as though he were David Copperfield and she that helpless little Dora.

This is a very long book, and, finishing it, I rather felt as though I had been labouring through Antarctic wastes myself. But there is plenty of excitement and a constant exhibition of dogged

pluck, cheerfulness in adversity, and power of leadership. There was controversy about Shackleton in his own day. The pugnacity of his appearance—square shoulders, straight eyes, prognathous jaw—led to hasty assumptions. He certainly could be hasty, dogmatic, and too quick in the uptake: on his first trip South with Scott he was fined five times in the mess in one evening for betting other people that they were wrong. He once broke his word to Scott by using a Base which he had promised not to use; but lives were at stake, and there is no evidence here of a generally unscrupulous character. He had his differences of opinion, he did not suffer Committees

gladly, and he was sometimes treated unjustly and disliked it: the popular Press, which enjoys bad news and quarrels, even accused him once of "Fight on the Bridge."

But his men swore by him, and the survivors of them still do swear by him. Popular rumour may have made a self-assertive bully of him, but when people met him they were rapidly disarmed. Towards the end of the 1914-18 War he was sent to Murmansk as a Major in the Army, deputed to equip the British force for a campaign against the Bolsheviks—incidentally, even there he had a project for getting a concession for mineral exploitation out of the White Russian Government, which soon vanished! General Maynard, in command, feared that he would be intractable. "The impression I had gathered from hearsay," he afterwards wrote, "was that he was somewhat dictatorial if not overbearing; and that, though doubtless a fine leader of men, he was unlikely to accept gladly a subordinate position. Events soon proved, however, that my fears on this score were totally unfounded, for from the moment of his arrival to the time of his departure in the spring of 1919, he gave me of his very best, and his loyalty from start to finish was absolute. He fitted at once into the niche awaiting him, and both he and his friends of past Antarctic expeditions who were working with him laid themselves out unreservedly to further the interests of my Force."

The book contains many first-class photographs and some pleasing drawings. There is one sad mistake. There is reproduced a drawing of Shackleton by "E.T.R.", namely E. T. Reed—at one time famous wherever *Punch* was read (namely all over the world) as the artist of "Prehistoric Peeps" and the illustrator of "Toby M.P.'s" weekly Parliamentary sketch; he appears here as E. T. Reeve.

Novels are reviewed by K. John, and other books by E. D. O'Brien, on page 116 of this issue.



"ERNEST HENRY SHACKLETON, AGED 16, IN UNIFORM OF WHITE STAR LINE."



MRS. SHACKLETON IN 1909. ERNEST SHACKLETON AND EMILY DORMAN WERE MARRIED IN APRIL 1904.



SIR ERNEST SHACKLETON, PHOTOGRAPHED ON BOARD *QUEST* DURING HIS LAST VOYAGE.



THREE GREAT POLAR EXPLORERS: (L. TO R.) "SHACKLETON, PEARY AND AMUNDSEN, NEW YORK, 1910."

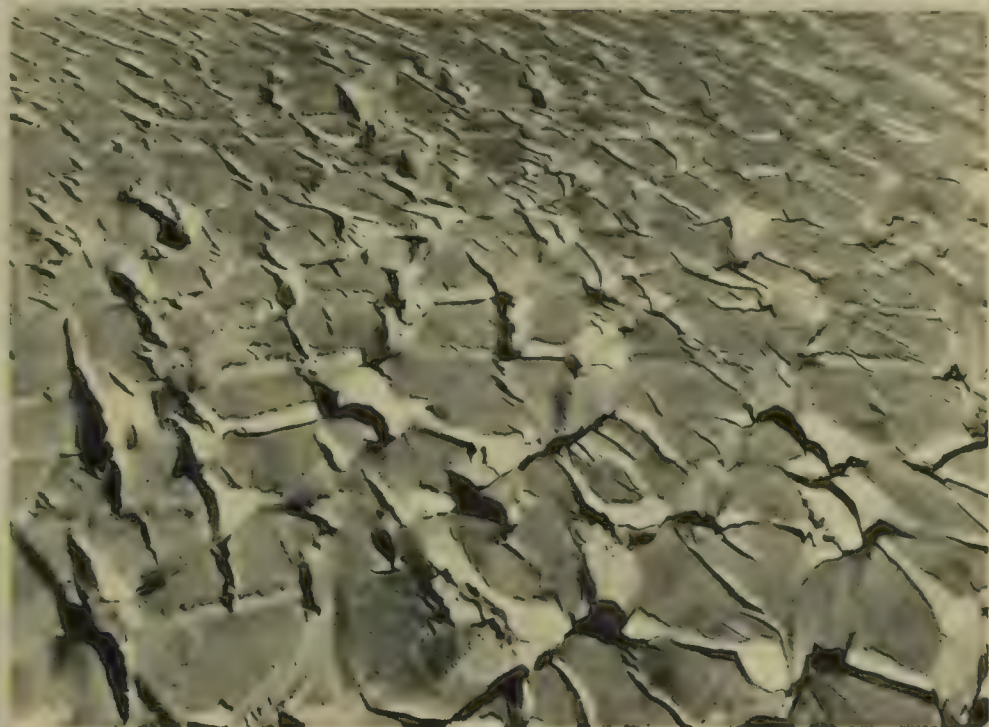
Illustrations reproduced from the book by courtesy of the publishers, James Barrie Books, Ltd.

The explorer, the company-promoter and the poet Are of imagination all compact . . .

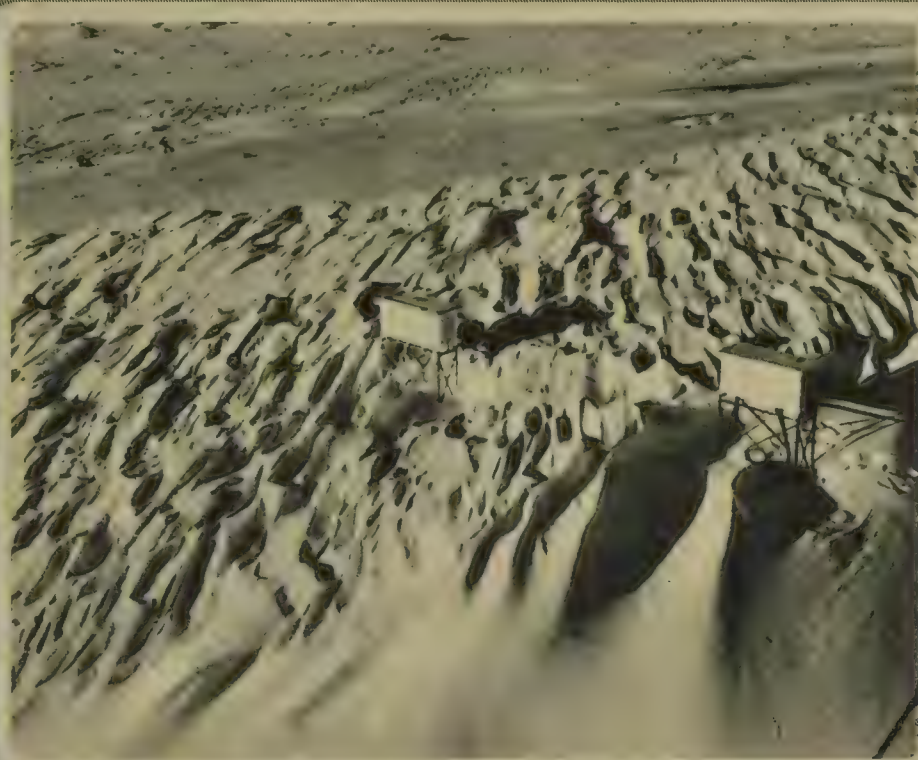
Shackleton, in his brief sojourns at home between voyages, was involved in all sorts of odd money-making schemes, some of which involved the raising of millions of pounds of capital. Needless to say, these schemes did not come to fruition; the only enterprise which went any distance was a modest cigarette business. His object, he it understood, was not the accumulation of wealth for its own sake, but because of what he could do with it. He never had all the money he wanted for his expeditions; he was usually in debt when he returned; yet, when he made large sums by lecturing and writing, he was as liable as not to give the proceeds to charity. As for the poetic side of him, he himself said it was that which pushed him into exploration, and he was undoubtedly very responsive to human nobility and to the exquisite shades of light and colour produced by Polar dawns and sunsets, and the majesty of Polar contours; but he was better at perception than at expression. He was familiar with Tennyson and Swinburne; Browning was

* "Shackleton." By Margery and James Fisher. Maps and Illustrations. (Barrie; 30s.)

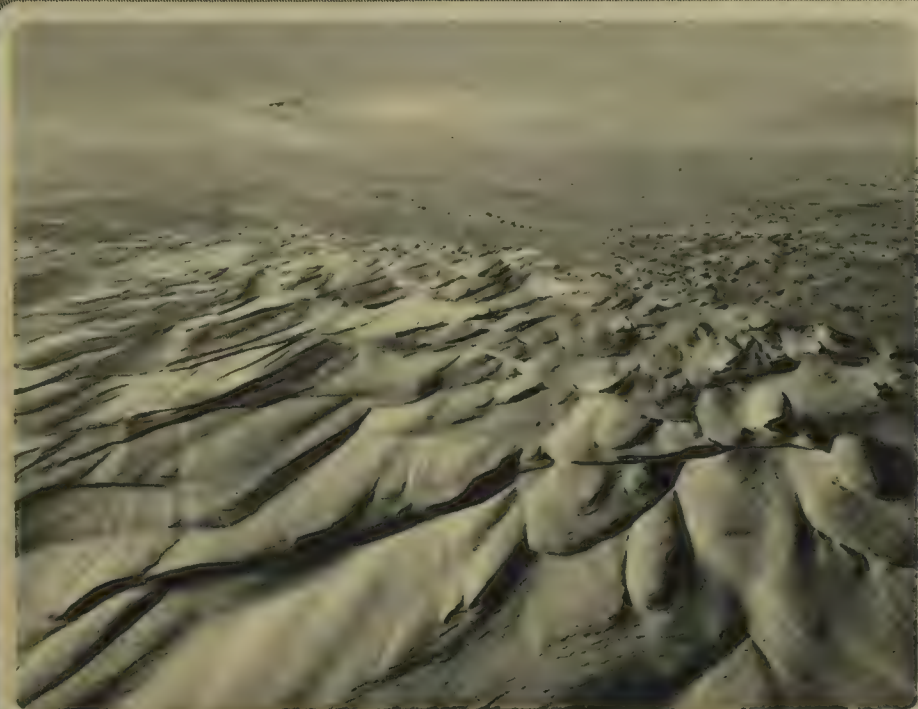
A WINDOW ON THE WORLD—I.



AN AREA OF HEAVY CREVASSING IN THE SKELTON GLACIER NEAR THE PLATEAU, WHICH GIVES SOME IDEA OF THE SORT OF OBSTACLE WHICH CAN BE MET.



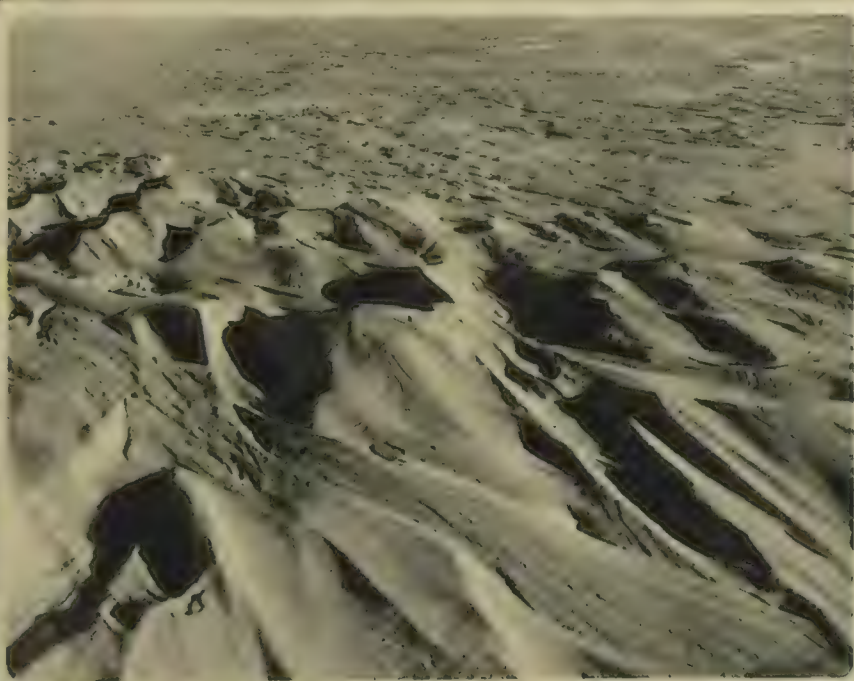
A BAND OF SASTRUGI, OR HARD RIDGES OF SNOW. THE TWO STEVENSON METEOROLOGICAL SCREENS (EACH ABOUT 2½ FT. WIDE) GIVE SOME IDEA OF THE SIZE OF THE SNOW RIDGES SHOWN HERE.



SASTRUGI IN FANTASTIC WIND-BLOWN SHAPES LIKE OVERLAPPING SCALES: A PHOTOGRAPH TAKEN IN 1911 DURING SCOTT'S ANTARCTIC EXPLORATIONS.



SASTRUGI WHICH MAN HAD HELPED TO FORM: A LINE OF FOOTPRINTS IN WHICH THE WEIGHT-COMPACTED SNOW HAD FORMED A SERIES OF HARD CORES FOR THE WORK OF THE ERODING WIND.



LOOKING LIKE AN AERIAL VIEW OF THE SAHARA, BUT IN FACT AN AREA OF SNOW SASTRUGI IN THE ANTARCTIC TAKEN DURING CAPTAIN SCOTT'S EXPEDITION.

ANTARCTICA : SASTRUGI AND CREVASSE HAZARDS.

In the reports received of the progress of Sir Edmund Hillary's and Dr. Vivian Fuchs' parties towards the South Pole, there has been regular reference to the surface over which they have travelled: to smooth hard snow, to soft snow, to crevassing, and to *sastrugi*. It was, for example, stated that on January 4 Dr. Fuchs' party were halted owing to a damaged *Weasel* in an area where the *sastrugi* were as much as 4 ft. high; and frequent reference has been made to the severe punishment which vehicles suffer as the result of passing over even much lower *sastrugi*. The nearest and most familiar parallel to *sastrugi*—though on a very much smaller scale—is the areas of rippled sand found at times on all sea beaches; and everyone who, as a boy, has ridden a bicycle over such ridges can imagine the effect when magnified by Antarctic winds into ripples of hard snow like a frozen stormy sea. We show here four examples of *sastrugi* and one of an area of crevassing.

A WINDOW ON THE WORLD—II.



UNITED STATES. DESIGNED FOR THE 1960 WINTER OLYMPIC GAMES: A MODEL OF THE STADIUM WHICH IS TO BE ERECTED AT SQUAW VALLEY, CALIFORNIA. Construction work for the 1960 Winter Olympic Games, which are to be held at Squaw Valley, California, began last June. This striking stadium, which will hold 8000 spectators, was designed by the architects Corlett and Spackman and Kitchen and Hunt.



UNITED STATES. PREPARING FOR WINTER SPORTS IN THE CENTRE OF CHICAGO: MANUFACTURED SNOW BEING SPREAD OVER THE STRAW-COVERED SEATS IN THE SOLDIERS FIELD, WHERE BOTH SKI-ING AND TOBOGGANING ON A NUMBER OF RUNS WERE PLANNED.



ANTARCTICA. ON THE JOURNEY TO DEPOT 700: THE TRACTOR TRAIN WHICH TOOK SIR EDMUND HILLARY AND HIS PARTY TO DEPOT 700, AND THEN, MINUS ONE VEHICLE, ON TO THE SOUTH POLE. All the three Ferguson tractors with which Sir Edmund Hillary and his companions set out from Scott Base on October 14 completed the 1200 miles to the South Pole, where the New Zealand party arrived on January 3. These tractors were basically the normal model, fitted with tracks and special driving cabins.



ANTARCTICA. DRESSING FOR THE PART: FLIPPER, THE PENGUIN MASCOT OF A UNITED STATES NAVAL TEAM ENGAGED IN I.G.Y. OPERATIONS IN THE ANTARCTIC.



GERMANY. ON THE SECOND DAY OF THE INQUIRY AT LUBECK INTO THE SINKING OF PAMIR: TWO OF THE SURVIVORS, G. HASSELBACH AND K. KRAAZ (LEFT), STANDING TO GIVE EVIDENCE. The official inquiry into the loss of *Pamir*, the four-masted sailing ship which sank last September during a hurricane in the South Atlantic, opened at Lübeck on January 6. There were only six survivors out of the crew of eighty-six of *Pamir*, which was used as a training ship for German merchant service cadets. The object of the inquiry is not to apportion blame, but to discover if specific causes of the disaster can be traced. Several of the survivors gave evidence on the second day of the inquiry.



GERMANY. IN THE THIRTEENTH-CENTURY RATHAUS AT LUBECK: ONE OF THE SURVIVORS OF PAMIR, K. DUEMMER, GIVING EVIDENCE BEFORE THE BOARD OF INQUIRY.

A WINDOW ON THE WORLD—III.



THE UNITED STATES. AFTER DELIVERING HIS "STATE OF THE UNION" MESSAGE: PRESIDENT EISENHOWER ACKNOWLEDGING THE OVATION OF SENATE AND CONGRESS. On January 9 President Eisenhower made his annual "State of the Union" speech to a joint session of Congress in Washington. His 50-minute speech, described "as one of the most impressive . . . of his career," was warmly and repeatedly applauded.



TRINIDAD. LORD HAILES (RIGHT) TAKING THE OATH OF OFFICE AS THE FIRST GOVERNOR-GENERAL OF THE FEDERATION OF THE WEST INDIES.

On January 3 the Federation of the West Indies formally came into being when Lord Hailes was sworn in as its first Governor-General in the Legislative Council chamber of the Trinidad Government in Port of Spain. Lord Hailes was sworn in by Sir Joseph Mathieu-Perez, Chief Justice of Trinidad.



THE PHILIPPINES. TAKING THE OATH OF OFFICE IN MANILA: PRESIDENT CARLOS P. GARCIA, THE NEW PRESIDENT, RAISING HIS RIGHT HAND.

On December 30 the new Philippine President, Carlos P. Garcia, took the oath of office from Chief Justice Ricardo Paras in Manila. Seen next to the President is his wife. Mr. Garcia, who is sixty-one, was Vice-President under the late President Magsaysay, who was killed in an air crash last March.



MOROCCO. NEAR CASABLANCA: A PIER WHICH WAS CONSTRUCTED TO UNLOAD THE CARGO FROM THE GROUNDED FRENCH FREIGHTER *PEI HO*.

A French cargo ship, the 11,000-ton *Pei Ho*, plying between Japan and ports in northern France, was driven on to rocks off Casablanca in a storm on December 12. The crew was rescued and a pier built to enable the cargo to be unloaded as the vessel began to break up.



SOUTH AFRICA. THE OPENING PHASE OF "OPERATION SHARK": THE FRIGATE *VRYSTAAT* DROPPING DEPTH-CHARGES OFF MARGATE, NATAL.

The South African Navy recently joined in the battle against sharks which have been killing and mauling bathers on the southern coast of Natal. On January 6 *Vrystaat* dropped depth-charges off Margate, Natal, in an effort to drive the sharks from the area.



FORMOSA. DURING A RECENT TWO-DAY VISIT TO FORMOSA: CARDINAL SPELLMAN OF NEW YORK, WHO SPENT NEW YEAR'S DAY WITH U.S. SERVICEMEN ON THE ISLAND, BEING GREETED BY GENERAL CHIANG KAI-SHEK, PRESIDENT OF THE NATIONAL REPUBLIC OF CHINA.

A WINDOW ON THE WORLD—IV.



BURMA. AT THE MILITARY PARADE CELEBRATING THE TENTH ANNIVERSARY OF BURMA'S INDEPENDENCE ON JANUARY 4: BURMESE ARMY TANKS MOVING PAST THE PRESIDENT, U WIN MAUNG, AT THE SALUTING-BASE DURING THE GENERAL CELEBRATIONS AT THE CAPITAL, RANGOON.



LENINGRAD, RUSSIA. *LENIN*, THE WORLD'S FIRST ATOMIC-POWERED ICE-BREAKER, NOW APPROACHING COMPLETION. SHE IS OF ABOUT 16,000 TONS. The world's first nuclear-powered surface ship, the Russian 16,000-ton ice-breaker, *Lenin*, launched on December 6 at Leningrad and now approaching completion, will have a complement of about 1000, will be able to remain at sea a year without refuelling, and be capable of speeds up to 20 knots.



NORWAY. SMOKE POURING FROM THE STERN OF THE NORWEGIAN COASTAL VESSEL *ERLING JARL* IN A FIRE IN WHICH SOME 14 PASSENGERS WERE KILLED. When the 2098-ton coastal ship *Erling Jarl*, northward-bound from Trondheim, was in harbour at Bodoe on January 8 an explosion caused a fire which developed with great speed and led to the death of at least fourteen passengers, all men. The crew and some 180 other passengers were unhurt.



SPAIN. CARVED OUT OF THE LIVING ROCK: A GREAT CRYPT WHICH IS A MEMORIAL TO THE DEAD OF BOTH SIDES OF THE SPANISH CIVIL WAR. This memorial, at the foot of the Guadarrama Mountains, some 24 miles from Madrid, consists of an 853-ft.-long crypt, with many altars, and a 492-ft.-high cross on top of the rock in which the crypt is cut. The crypt contains many side altars.



FLORIDA, U.S.A. *ATLAS* BOARS INTO THE SKY: THE SECOND SUCCESSFUL LAUNCHING OF THE U.S. INTER-CONTINENTAL MISSILE ON JANUARY 10.

The first successful launching of America's 90-ton inter-continental missile, *Atlas*, took place on Dec. 17, travelling some 600 miles to a pre-selected target. The second successful launching took place on Jan. 10 and the missile was fired over the Atlantic, but not to its full 5000-mile range. In two other tests the rockets went awry and were destroyed.

(Right.) **HOBART, TASMANIA.** THE WINNER (AND THIRD HOME) IN THE SYDNEY-HOBART RACE: THE SYDNEY CUTTER *ANITRA*.

In this famous yacht race, the 65-ft. cutter *Kurrewa IV* recorded the fastest time ever for the 860-mile course—3 days 18 hours 30 mins. 39 secs.—but on handicap was placed fourth.



ANTARCTICA. THE "CABOOSE": THE LIVING QUARTERS TOWED BY ONE OF THE TRACTORS IN SIR EDMUND HILLARY'S DASH TO THE POLE. This radio photograph from Wellington, N.Z., shows the box-like mobile hut which was towed by one of the Ferguson tractors in Sir Edmund Hillary's successful dash to the South Pole. As well as living quarters, it contained the radio apparatus.



"SUPPORT costs" are the contributions made by the Federal Republic of Germany towards the upkeep of allied forces stationed in its territory. When the occupation came to an end, Germany being still unarmed, they were imposed by agreement as Germany's contribution to the defence of this territory. To-day the situation is changed. Germany is, in part, but not wholly, rearmed. Discussion between the British and West German Governments on the question of what, if any, support costs should be paid this year came to a deadlock. Britain then put her case to the Atlantic Council, which referred it to a committee of three eminent Norwegian, Belgian and French bankers, all representatives of their national banks. They presented their views to the Council, which accepted them on January 8. This is the position as I write.

The Atlantic Council did not state in so many words that support costs should be paid by Germany. It decided that the United Kingdom was justified in appealing "to its allies" for help. On the other hand, it was not to be expected that such an appeal would be made to any quarter but the Federal Republic or that it would meet with a favourable response if it were. It should be pointed out that this question is not directly concerned with the British Budget, now so prominently in the public eye. It is a question of external finance. The report mentioned above stated that the financial burden of maintaining troops on the Continent was likely to impose a new and heavy strain on the British balance of payments. Anyhow, the problems are related.

The German Defence Minister had said in advance that the aid could not come out of his Budget. At first sight this is wholly reasonable and in no case could it be considered unexpected. Yet the fact that his Government has fallen behind its rearmament schedule would seem to be a factor making for the justification of the British appeal. But again the position is complicated by the fact that Britain was already committed to the withdrawal of a considerable number of troops from the land and air forces previously stationed in Germany. The decision was unwelcome to the Federal Government and, it may be supposed, does not incline it to view with greater favour a demand in any case unwelcome.

Another withdrawal raises a wider question and one of the highest importance. Soviet Russia is pulling back some 40,000 troops from East Germany. My estimate of the number of divisions there is twenty-two, but I should not like to be positive about their establishment, except that it is on the small side. I can therefore only make a shot and put it that twenty-two small divisions minus 40,000 men would reduce Russian strength to a figure of something over 200,000 men; add extra-divisional troops and the total might be 230,000. These figures may be a long way out, but I doubt if they are far enough to spoil my presentation of the situation. Now the N.A.T.O. forces should be higher than this and are on paper, which has always been too prominent a feature of N.A.T.O. defences.

Most of the figures current about N.A.T.O. strength have therefore to be cut because paper soldiers do not fight and are what the sixteenth

A WINDOW ON THE WORLD. SUPPORT COSTS AND DISENGAGEMENT.

By CYRIL FALLS,

Sometime Chichele Professor of the History of War, Oxford.

and seventeenth centuries called *passee-volants*. All said and done, however, it looks as though in the near future there will be something not far short of equality between Russian and N.A.T.O. strengths. If I am correct, the significance of this state of affairs is its relation to the policy of disengagement—the breaking of strategic contact between Russian and N.A.T.O. forces and the creation of a wide zone between them—to which much attention has lately been given. In addition,

is valid: that weakening or withdrawal of N.A.T.O. forces would not increase the probability that any clash on the Continent would bring on a thermo-nuclear war. A short time ago I should have been inclined to think that such a danger was a pressing one. I think it rather less urgent now.

At the same time this is not the sole objection to disengagement. There is the sentiment of the Federal Republic, which has so far been hostile to the proposition. The confidence and spirit of West Germany is a factor never to be overlooked. Then, the presence of British forces in Germany has always been regarded as an assurance of Britain's determination to play a leading and a vital part in N.A.T.O. The argument that, but for Sir Anthony Eden's pledge, the Paris Agreements would not have been made still counts, though perhaps it is not as strong as it was owing to the subsequent growth of friendship and contacts between France and the Federal Republic. These are serious points.

Support costs in themselves are no more than a temporary issue, a stop-gap. Can it reasonably be supposed that Western Germany would be prepared to go on paying them after her own armed forces had attained their full establishment? The longest period over which Britain might hope to receive them would be two years. I do not suggest that they are anything but important considerations to Britain now. But the situation and ideas which I have linked with them because the two have been brought into prominence at the same moment is a far wider problem. I am aware that disengagement is advocated not only by the lunatic fringe but by many who are sound, cool, and even tough-minded.

I may be accused of being obscurantist and devoid of generosity of spirit, but I do not feel I can follow these evangelists. I fear that the creation of a vacuum in Germany would be likely to set going a rapid disintegration of N.A.T.O. It has already suffered a falling-off in popularity. A general feeling that it has become outmoded seems to be spreading. I do not admit that it has outlived its usefulness. Public opinion chafed over the tardiness of its start and urged speed; now a considerable section of public opinion still appears to be urging speed, but in a muddled way and in the opposite direction. Because things moved too slowly at the beginning is no good reason why they should move too fast now.

Fortunately (to my thinking) the N.A.T.O. Governments have remained pretty sound in their principles, even when they have fallen short of them in practice. It does not seem likely at present that they are in danger of being rushed

into doubtful courses from which no retreat would be possible. I see no objection to the policy of disengagement continuing to be the subject of study, from both political and military points of view. But the policy of "do something" is rarely a success; it is often better to do nothing for a time. We are all of us groping in the dark because we cannot assess the effects of any out of several possible policies, though some people do so with a confidence which I should envy if I did not distrust it. Rash action might be followed by a sunrise revealing that we were in a worse place than we are now.



THE PRIME MINISTER'S VISIT TO INDIA: MR. HAROLD MACMILLAN AND LADY DOROTHY MACMILLAN SEEN BETWEEN MR. NEHRU AND HIS DAUGHTER, MRS. INDIRA GANDHI, AT THE DELHI AIRPORT AFTER THEIR ARRIVAL BY AIR. ON THE LEFT, MR. NEHRU'S MILITARY SECRETARY.



PAYING A TRIBUTE TO MAHATMA GANDHI: MR. MACMILLAN AND LADY DOROTHY MACMILLAN LAYING A WREATH AT THE GANDHI MEMORIAL ON THE BANKS OF THE JUMNA.

On January 8 Mr. Macmillan, accompanied by Lady Dorothy Macmillan, arrived by air at Delhi for the first part of his Commonwealth tour; and received a warm welcome, both official and public. On January 9, after a visit to the Mahatma Gandhi Memorial, they attended a luncheon with Mr. Nehru and there met, for the first time, Dr. Sukarno, President of Indonesia. In the evening Mr. Macmillan attended a banquet in his honour at President's House. On January 10 he met the Finance and Defence Ministers and laid the foundation-stone of the new British High Commission offices; and in an evening broadcast referred to the Commonwealth as "a practical working model of that international co-operation on which the peace of the world must ultimately depend." On January 12 the Prime Minister's party left by air and were welcomed in Karachi by the Pakistan Prime Minister, Malik Feroz Khan Noon, and his Government. On three successive days Mr. Macmillan was to be the guest of the Pakistan armed services.

it seems certain that the West German strength will soon equal the Eastern.

This would not amount to a strategic equality because Russia has greater means and facilities for reinforcement through Poland, where she already has a garrison of her own troops. I will call it politico-strategic equality. It might be expected to reduce heat and lessen the likelihood of a clash; such at least is the opinion of those who advocate disengagement. It depends in part, however, on a hypothesis which neither I nor anyone else west of the Iron Curtain can be sure

FROM FAR AND NEAR: THE ROYAL FAMILY AT THE CIRCUS; AND OTHER NEWS ITEMS.



DRIVEN ASHORE DURING A GALE ON JANUARY 9: THE SUBMARINE *TACITURN* AGROUND AT THE ENTRANCE TO CAMPBELL TOWN LOCH, IN THE FIRTH OF CLYDE.

The 1090-ton submarine *Taciturn*, which was blown ashore during the severe gales on January 9, was successfully refloated during the afternoon of January 10 and towed to Faslane, in the Firth of Clyde, for dry-docking. The submarine had been left high and dry after the exceptionally high tide during which she went aground.



TO CLOSE AT THE END OF APRIL: THE LADIES' CARLTON CLUB, FOUNDED IN 1907 AND ONE OF THE OLDEST WOMEN'S CLUBS IN LONDON.

It was announced on January 13 that the Ladies' Carlton Club is to close at the end of April for financial reasons. Lord Davidson, chairman of the Club board, said that the decision had been taken because of the heavy losses sustained by the Club during the past few years.



WITH THE "SPORTSMAN OF THE YEAR" TROPHY HE WON IN 1954: DR. ROGER BANNISTER, WHO RAN THE FIRST FOUR-MINUTE MILE IN 1954, AND HIS WIFE, AFTER RECEIVING THE TROPHY IN NEW YORK.



IN DRY DOCK AT BELFAST: THE FORMER CANADIAN PACIFIC LINER *EMPRESS OF SCOTLAND*, WHICH IS NOW UP FOR SALE. BUILT IN 1930, THE 26,313-TON LINER MADE 187 ATLANTIC CROSSINGS UNDER THE CANADIAN PACIFIC FLAG.



FURTHER ANTI-GALE PRECAUTIONS IN HATFIELD NEW TOWN: WORKMEN FASTENING TEMPORARY ROOFS ON HOUSES IN HAZEL GROVE, AFTER THEY HAD BEEN BLOWN OFF DURING HIGH WINDS ON JANUARY 6. THE ORIGINAL ALUMINIUM ROOFS WERE BLOWN OFF IN NOVEMBER.



WATCHED OVER BY THE STATUE OF COBDEN: THE SCENE ON JANUARY 8, DURING THE FIRST ACTUAL WOOL AUCTION HELD IN THE BRADFORD WOOL EXCHANGE.



THEIR FIRST VISIT TO A CIRCUS: THE DUKE OF CORNWALL AND PRINCESS ANNE LEAVING OLYMPIA WITH THE QUEEN AND THE DUKE OF EDINBURGH. On January 6 the Queen and the Duke of Edinburgh took the Duke of Cornwall and Princess Anne to the afternoon performance of the Bertram Mills Circus at Olympia, in London. The Royal visitors were received by Mr. Cyril Mills and Mr. Bernard Mills, who can be seen with them in this photograph taken after the performance.

THE BRITISH IRON AND STEEL INDUSTRY. SPECIAL SECTION.

A SURVEY OF A MAJOR INDUSTRY FROM 500 B.C. TO 1958.

BY A. E. G. WRIGHT, M.A.

IRON- and steel-making in Britain dates back to almost 500 B.C. and its history from that time until the eighteenth century has recently been published.* The smelting of iron-bearing rocks with suitable fuels originated by burning small heaps of charcoal and ore in shallow clay-lined holes in the ground, the resulting mass of metal and waste slag being "malleable" (i.e., easily shaped by hammering, which squeezed out most of the slag). The small "blooms" produced in the less primitive furnaces of the Middle Ages were reheated, piled, forged and welded into larger pieces of iron and worked into the required shapes, water-driven tilt-hammers being used by, at any rate, the early thirteenth century. This "direct" method of iron production was the basis of the flourishing Mediaeval Wealden, North Country and Forest of Dean iron industry. In the fifteenth century, however, a two-stage process became usual with the arrival in this country of the blast furnace, which enabled molten iron to be tapped off separately and cast into "pigs" of solid metal prior to further refining in "finery" and "chafery" furnaces.

The amount of wood consumed by the early ironmakers was prodigious, and their demands conflicting with those of the Navy caused several Acts of Parliament to be passed regulating their activities in Tudor and Stuart times. Attempts to smelt iron with coal were made throughout the seventeenth century, but it was not until 1709 that coking was perfected by Abraham Darby, of Coalbrookdale, and coke smelting did not become general until the end of the eighteenth century.

That century also saw the perfection of crucible steel melting by Benjamin Huntsman—a process still used to-day, which, while producing insignificant amounts by present-day standards (only about 40,000 tons a year in 1856), was a great advance on the previous laborious and even smaller-scale methods. Other important innovations were Henry Cort's reverberatory puddling furnace, which quickly became the chief source of Britain's wrought iron—the staple raw material of our engineering industries in the first half of the nineteenth century—and his grooved rolls, which enabled iron rails and other shaped products to be rolled in a mill.

By the 1820's, Britain was the only country in the world with a large iron-making industry. Pig-iron production was almost half a million tons in 1822, while there were three or four iron works in existence with over 2000 employees apiece. The main centres of the industry were in South Wales, Scotland and the older-established Midlands. Steel-making was still centred mainly in the Sheffield district. In the Railway Age, British iron girdled the world; pig-iron production reached 3.5 million tons in 1856 and exports 1.35 million tons, with the United States as our largest overseas customer.

In 1856 Henry Bessemer, an outstanding inventive genius, patented his pneumatic process of converting pig iron into soft iron or mild steel simply by blowing a powerful blast of air through the molten metal. Five years later William Siemens—a naturalised Englishman—introduced his regenerative open-hearth furnace. Between them, these two mid-Victorian inventions revolutionised the iron industries of the world and created the Steel Age: in their essentials they are still the basis of steel-making to-day. From a

scarce, very expensive material in the early 1850's, steel (an alloy of iron and carbon possessing better engineering and cutting properties and greater strength) within thirty years rivalled wrought iron as the staple material of industry, and thereafter swiftly ousted it.

The transition would have taken place more rapidly but for the fact that Bessemer's original process (and Siemens' also) was only operable if non-phosphoric (hematite) ores were used, and these were comparatively scarce and dear both in this country and abroad. The problem was a chemical one, of devising a furnace lining that would enable the phosphorus to be eliminated. In 1879 it was solved by a young civil servant, Sidney Gilchrist Thomas, who was, in fact, not a steel-maker or a scientist at all, but an enthusiastic spare-time amateur chemist.



ONE OF THE MOST DRAMATIC SIGHTS IN A SPECTACULAR INDUSTRY: A BESSEMER CONVERTER AT CORBY BLOWING. 25 TONS OF MOLTEN IRON BECOME STEEL IN 15 MINUTES.

The earliest method of mass-producing steel, by blowing air through a vessel containing molten iron, was invented by Sir Henry Bessemer in 1856. Though his process has been outstripped by the Siemens open-hearth method which, taking much longer, allows a greater degree of control to be exercised, the tonnage of Bessemer steel produced in Britain has markedly increased since 1935, when Stewarts and Lloyds inaugurated their Corby tube works using basic Bessemer steel made from the local Northamptonshire ore. Since the Second World War, a further revival of interest in the Bessemer process for duplexing (i.e., the processing of the steel in more than one type of furnace), and the use of oxygen-enriched blast indicates that after the passage of a century the converter still has an important future. [Photograph by Adolf Morath.]

Thomas' invention of the "basic" process, though at first received with scepticism by Lowthian Bell—the leading scientific ironmaster of his time—and others, swiftly transformed the economics and practice of steel-making for the second time in twenty-five years; for it was more immediately beneficial to the development of new Continental steel industries in Germany, France and Belgium, who had large deposits of suitable ores, than to this country whose existing steel industry was built up on home and imported hematite. With the emergence of the United States also as a potential rival instead of, as in former times, a major customer, the stage was set for the era of competition, which by the outbreak of the First World War had reduced Britain from the leading iron- and steel-making country to the third largest producer and the second exporter. In contrast to our rivals, protected from their infancy by tariffs and cartels, we retained Free Trade until 1932; and the foreigners' habitual practice of selling their surplus production in our home market at low prices intensified our difficulties, both in pre-1914 years and much more so during the 1920's.

In that "Black Decade" much energy went into the Industry's campaign for a tariff as a necessary means of defence against the activities of the powerful Continental cartel. The post-war

slump, following considerable wartime expansion, had left the industry with a heavy burden of surplus capacity and unemployment. Prices and profits were forced down to a very low level, and the export trade was only maintained by selling at a figure which often barely covered costs. Even so, the British industry remained in the van of metallurgical research and Sheffield's unique reputation for the specialised alloy steels pioneered by Sir Robert Hadfield and much developed during and after the war was maintained and enhanced—new electric melting processes largely replacing the traditional crucible industry.

Government enquiries during the later 1920's and early 1930's stressed the need for reorganisation and rationalisation of the iron and steel industry: the tariff of 1932 was granted on condition that the industry strengthened its central organisation, and the British Iron and Steel Federation thus came into being in 1934. The tariff came none too soon to save the industry from collapse and enable it to meet foreign competition on more equal terms. It reached a working agreement with the European Cartel in 1935, and had made substantial progress towards recovery by the time war broke out in 1939. Much uneconomic plant was scrapped, and several large modernisation schemes were carried out, including a completely new iron and steel and tube-making works (at Corby) and the installation of the first European wide strip mill (at Ebbw Vale). Pig iron rose from the 3.5 million tons of 1932 to over 8 millions in 1937; steel from 5.2 million tons in the former year to a new record of 13 million tons in the latter.

The expansion accompanying this recovery enabled the iron and steel industry to make its full contribution to the war effort. The magnitude of the industry's achievement is illustrated by the fact that the production of lean home ore, which had fallen to little over 7 million tons in the early 1930's, was expanded from a 1937/38 average of 13 million tons to nearly 20 millions in 1942, to compensate for the catastrophic drop in supplies of rich imported ores, shipments of which fell to under 2 million tons compared with the 1937/38 average of 6 million tons. Total steel production was thereby maintained at between 12 and 13 million tons a year, and the output of alloy and special steels needed for armaments was nearly double the pre-war figure at almost 1.6 million tons annually.

When the war ended, the industry presented to the Government its plan for the expansion of steel capacity to 16 million tons by 1952. The production target was subsequently advanced to 18 million tons for the middle '50's—a level surpassed in 1954. A second development plan is now nearing completion, and 1957 steel production amounted to 21.7 million tons, while the industry is planning to provide steel capacity to meet an estimated demand of 29 million tons by 1962.

The active period of nationalisation between vesting date in February 1951 and the change of Government in October of that year was not long enough to make any marked impact on the policy and progress of the industry. The present pattern, which provides for public supervision by the Iron and Steel Board combined with private ownership, is a logical development from the pre-war arrangements by which the grant of a tariff was linked to Governmental oversight of the industry's efficiency. The record of the last quarter-century is one of which the steel industry and the country can be proud.

* "History of the British Iron and Steel Industry, c. 450 B.C. to A.D. 1775." By H. R. Schubert. (Routledge and Kegan Paul; 60s.)



OPEN-CAST WORKING OF IRON-ORE: A HUGE "WALKING DRAGLINE," WITH A BUCKET CAPACITY OF 20 CUBIC YARDS AND A BOOM 282 FT. LONG, IN OPERATION AT STEWARTS AND LLOYDS' PRIORS HALL SOUTH QUARRY, NORTHAMPTONSHIRE.



WHERE ORE IS SOUGHT IN THE BOWELS OF THE EARTH: PART OF THE UNITED STEEL COMPANIES' BECKERMET MINE IN CUMBERLAND.



IMPORTING IRON-ORE: A MODERN UNLOADER DISCHARGING A CARGO AT THE SOUTH BANK WHARF OF DORMAN LONG (STEEL) LTD., ON THE TEES.



IRON-ORE IS ASSEMBLED IN WAGONS AND TAKEN TO THE ORE-PREPARATION PLANT: SOME 36,000 TONS A WEEK ARE TRANSPORTED AT THE CORBY WORKS OF STEWARTS AND LLOYDS.



AN IRON-ORE WAGON-TIPPLER IN OPERATION: A WAGON CONTAINING ORE IS UNLOADED BY TILTING. THE ORE IS PARTLY PREPARED FOR SMELTING BY A ROLL CRUSHER.



CONVERTING COAL INTO COKE FOR THE BLAST FURNACES: JOHN SUMMERS AND SONS, LTD.'S COKE OVENS AT SHOTTON.

FROM MINING TO PREPARING IRON-ORE FOR THE FURNACE: FIRST STAGES OF IRON AND STEEL MAKING.

The making of iron and steel begins with the gathering of iron-ore and limestone, and with the production from coal of coke for the blast furnaces in which the iron is smelted from the ore. In Britain, iron-ore is mostly found not far below the surface, and in Northamptonshire and Lincolnshire in particular is worked by open-cast methods. A large amount is also imported into Britain. The coke for the blast furnaces is obtained

by heating a suitable type of coal in enclosed ovens, the by-product gases obtained also being put to good use. The iron-ore, after grading and preparatory treatment, is fed into the top of the blast furnace with quantities of limestone and coke. The limestone assists in the process of separating impurities from the iron, which is tapped in its molten state from the hearth of the furnace.

Photographs by Adolf Morath.



(Above.)
TAPPING NO. 4 BLAST
FURNACE OF THE STEEL
COMPANY OF WALES:
A RECENT PHOTOGRAPH.



SHOWING THE COMPLEXITY OF THE EFFICIENT MODERN BLAST FURNACE : LEFT ARE
HOT BLAST STOVES ; CENTRE, THE FURNACES, AND RIGHT, GAS-CLEANING APPARATUS.

WHEN the raw materials for the production of iron have been assembled, the next stage is their transformation to molten iron in the blast furnace. The hot air blast passing upwards through the stack raises the charge or "burden" to reaction temperature. As the burden passes down the furnace, the chemical changes induced separate the iron from the impurities in the ore, and these impurities in their molten state float on top of the liquid iron as slag, and can thus be separated from it. When the molten iron and slag have descended to the hearth of the furnace, they are tapped off separately. The molten iron is then allowed to solidify into "pig iron," or sent as molten metal to the steel furnaces.



A PLEASINGLY PICTURESQUE INDUSTRIAL SCENE : A GENERAL VIEW OF THE CONSETT
IRON COMPANY'S WORKS. BLAST FURNACES CAN BE SEEN TO THE LEFT.



A STRIKING SCENE DURING THE TAPPING OF A BLAST FURNACE :
A STREAM OF MOLTEN IRON BEING RUN OFF AFTER SMELTING.



THE RAW MATERIAL FOR STEEL-MAKING : MOLTEN IRON BEING TAPPED FROM A BLAST
FURNACE AT THE APPLEBY-FRODINGHAM COMPANY'S WORKS IN LINCOLNSHIRE.

FROM IRON ORE, LIMESTONE AND COKE TO MOLTEN IRON AND SLAG : MAKING IRON IN THE BLAST FURNACE.

Photographs by Adolf Morath.



MOLTEN STEEL—A BASIC MATERIAL OF NEARLY ALL INDUSTRIES: TAPPING A GUEST KEEN IRON AND STEEL CO., LTD., 200-TON OPEN-HEARTH MELTING FURNACE AT EAST MOORS WORKS, CARDIFF.



ELECTRIC STEEL-MAKING: CHARGING A 30-TON ELECTRIC ARC FURNACE OF THE ENGLISH STEEL CORPORATION LTD.

MAKING A MATERIAL VITAL TO INDUSTRY: CONVERTING IRON INTO STEEL IN THE FURNACE'S HEAT.

British steel production in 1957, it was announced on January 9, reached a new record of 21.7 million tons—a million tons more than in 1956 but less than the possible total provided for by the industry. Although about 15 per cent. of the iron made in British blast furnaces last year was used in iron foundries, most of it was converted into steel, for which scrap is another source of raw material. The main difference between iron and steel is the carbon content of the metal, that of steel being lower, and this adjustment is brought about chiefly by the Open Hearth or the Bessemer process, the first being by far the most commonly

used in Britain. The electric furnace, which refines high-grade alloy steels, is charged almost entirely with scrap. The essence of the steel-making process is the removal of impurities from the iron by means of oxidation, brought about by the cold air blast in the Bessemer Converter, and by a flame resulting from a mixture of heated air with gas or oil in the open-hearth furnace. In recent years the use of oxygen and other advances in technique have raised productivity in steel-making. To-day a multitude of carbon and alloy steels is produced, with a wide range of chemical and physical properties.

Photographs by Adolf Morath.



A VIGOROUS INDUSTRY REACHES A NEW PRODUCTION RECORD: BRITAIN'S RESOURCES IN IRON, STEEL AND COAL.

With Government policy restraining industrial activity, especially in the investment sector which accounts for some 60 per cent. of home sales of steel, steel consumption in Britain in 1957 was no higher than in 1956. Rising demand from the buoyant motor industry was the most favourable feature of the steel market at home at the end of the year. Consumers added a little to their stocks of steel over the year and export sales increased markedly. On the supply side, the easier availability of home-produced steel allowed imports to be reduced sharply, by some 900,000 tons. Home production was

increased to replace these imports and to meet the small increase in total demand. 1957 steel output was another record at 21.7 million tons, a million tons above the 1956 level. The industry, however, had provided capacity sufficient to produce 23.5 million tons if demand had been strong enough to require it. By the end of the year, therefore, steel was available in adequate supply, except in the case of a few products. The industry took the opportunity to improve its productivity by retiring a number of old tinplate hand mills and two small obsolescent steel works in West South Wales.

Drawn by our Special Artist, G. H. Davis, and based on information supplied by the British Iron and Steel Federation.

"THE CITY OF STEEL"—THE ABBEY WORKS OF THE STEEL COMPANY OF WALES: ONE OF EUROPE'S LARGEST AND MOST MODERN INTEGRATED STEELWORKS.



THE ABBEY WORKS AT MARGAM, PORT TALBOT: FROM A PAINTING BY CHARLES CUNDALL, R.A.

THE Abbey Works of The Steel Company of Wales, one of Europe's largest and most modern integrated steelworks, is the subject of the painting by Charles Cundall, R.A., which was exhibited in the Royal Academy Summer Exhibition last year. The Steel Company of Wales is one of Britain's youngest industrial giants and was formed only in 1947, when several well-known steel and tinplate companies pooled certain of their resources to form the largest integrated steel-producing plant in the country. The Company was formed for one urgent purpose: to help bring Britain's steel and tinplate industries up to date. Since 1947, tens of millions of pounds have been spent on development; magnificent new machinery has been built and installed; new processes have been pioneered and used to speed production. To-day, The Steel Company of Wales makes a third of all Britain's sheet steel and two-thirds of her tinplate. Last year, the Company earned £28,000,000 for Britain in overseas markets. The largest single section of the Company is the Steel Division, which stretches for 4½ miles along the coast at Margam, Port Talbot. This vast works is more than a factory; it is a city, a city of steel, with a working population of 14,000 people. Within this city there are dock facilities, an ore preparation plant, coke ovens, blast furnaces, steel-making shops, and giant rolling mills. A hundred miles of railway criss-cross the roads, over level-crossings. There are car parks and traffic lights, roundabouts and one-way streets; even the Company's own uniformed police. Night and day, both on weekdays and at week-ends, the Steel Company is producing steel. Every week from the strip mill come some 38,000 tons of steel strip and plate. The strip is later rolled into sheet steel and tinplate. When the latest development

plan is complete, another 12,000 tons a week will be produced. Sheet steel, for the motor-car, the office and domestic equipment industries, and steel plate for shipbuilding go direct to customers from Margam. Coils of strip destined to be made into tinplate are transported on special railway wagons to the Company's Tinplate Division. There are two separate works within this division: Trostre, near Llanelli, and Velindre, near Swansea—both built since the war. At the Tinplate Division, steel strip from Margam is reduced further in gauge and is then coated with a protective coating of tin. Here again, modern machinery and new processes have speeded and improved production enormously; the output of these two tinplate works can be compared for quality and price with any in the world. The third division of The Steel Company of Wales is the Newport Division, which specialises in steel sheet for the electrical trade. The formation and swift success of this ever-working, ever-expanding Company has meant much to Britain. Faced with an acute shortage of both sheet steel and tinplate after the war, Britain was forced to import. Millions of pounds of precious foreign currency were spent to keep our vital manufacturing industries supplied. But now the tide is beginning to turn: supply is catching up with demand at last and there is a comfortable surplus left over for export: the value of steel and tinplate exports, both direct and indirect, is rising every year. The future prosperity of Britain depends, more than ever before, on her basic industries. If we are to survive at all in the fierce fight of world competition, we need new machinery, modern methods and, above all, a ceaseless urgency of purpose. All three are to be found at The Steel Company of Wales.



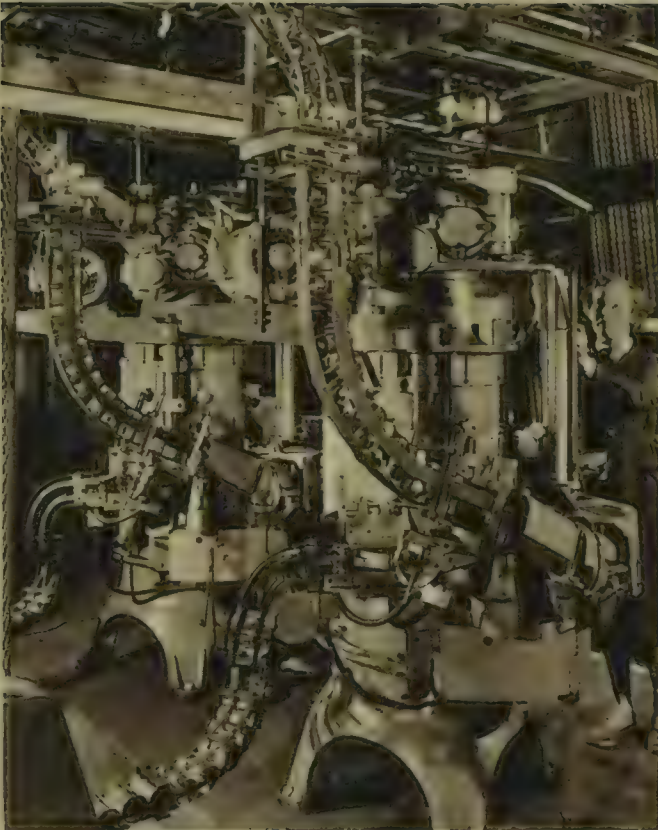


THE WORLD AS CUSTOMER FOR BRITISH STEEL PRODUCTS : EXPORTS IN 1956 TO COMMONWEALTH AND FOREIGN COUNTRIES.

In 1956 the high level of economic activity at home was still sucking in imports of steel and forcing the steel industry to restrain its exports in order to meet home demands. Imports totalled 1.8 million tons and exports 3.3 million tons. In 1957, steel production rose faster than home demand and the import-export balance changed sharply. Imports were reduced to 900,000 tons while exports increased to 4,000,000 tons, a post-war record. Thus Britain's *net* exports of steel more than doubled from 1.5 million tons in 1956 to 3.1 million tons in 1957. In the first nine months of 1957, the steel industry's

improved position contributed £56½ million to Britain's stronger balance of payments. The main increase in steel exports in 1957 came from sales of sheet, tinplate and tubes. Sales to Western Europe increased by no less than 40 per cent. over the previous year. This provides solid grounds for the support which the steel industry has given to the Free Trade Area proposals. Nevertheless, the Commonwealth remains the steel industry's main market. It took some 2.1 million tons of British steel in 1957, rather more than half the industry's exports, with Canada and India being the largest single markets.

Drawn by our Special Artist, G. H. Davis, and based on information supplied by the British Iron and Steel Federation.



(Above.)
MAKING CON-
TAINERS FOR PRO-
CESSED FOODS:
SEALING ONE END
OF "TINS" ON A
COMPLEX MACHINE.

*Photograph by courtesy of
The Metal Box Company.*

FROM the steel
shaped into
various forms by
the rolling mills,
products used in all
spheres of life are
made. The steel
leaves the rolling
mills as strip or
plate, as billets,
rails, bars, sections
or rods. Continuous
strip is fabricated
into motor-car
bodies; from it also
comes the sheet
steel which is widely
[Continued below.]



ONE OF A MYRIAD USES FOR STEEL
TUBING: A VIEW OF THE BRITISH HYDRO-
CARBON CHEMICALS LIMITED PLANT AT
GRANGEMOUTH.

Photograph by courtesy of Stewarts and Lloyds Ltd.



GALVANISED SHEET STEEL BEING BOUND UP IN COILS.

Photograph by Adolf Morath.

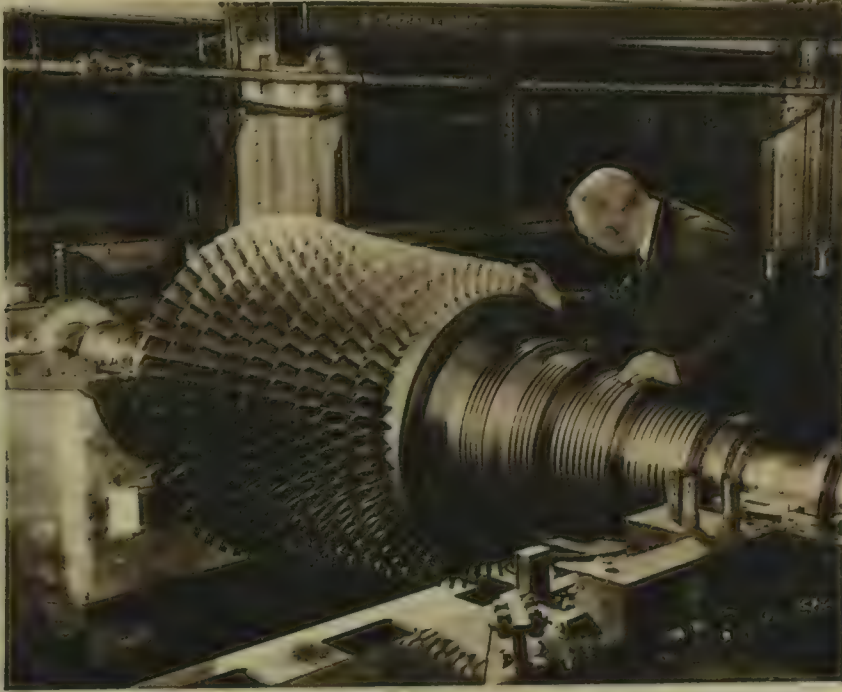


PREPARING A PRODUCT FOR STORAGE AND TRANS-
PORT: SECURING A COIL OF STRIP STEEL.

Photograph by Adolf Morath.



A PRODUCT OF THE ROLLING MILLS: STEEL CHANNELS STACKED READY FOR
SHIPMENT. (*Photograph by Adolf Morath.*)



COMPLEXITY IN ALLOY STEEL: A GAS TURBINE BLADED ROTOR, AT THE BRITISH
THOMSON-HOUSTON WORKS, RUGBY. (*Photograph by courtesy of Thos. Firth and John Brown Ltd.*)

THE ALCHEMY OF THE IRON AND STEEL INDUSTRY: SOME OF THE FINISHED PRODUCTS WROUGHT FROM IRON ORE.
[Continued.]
used in engineering and also the steel which, after tinning, provides the millions of cans and containers indispensable to everyday life. Plate is extensively used in shipbuilding, and a growing new use is for atomic energy plants. Billets may be re-rolled to form bars, pierced for the making of tubes or pipes, or made into products such as motor axles by means of forging or drop-forging. Bars are made into large items such as shafts, gears and seamless tubes as well as smaller products such as nuts and bolts, motor-car and bicycle parts, and components for other machinery, while much is used every year for reinforced concrete. Rods are also used in reinforcing work and in the manufacture of many different types of wire.



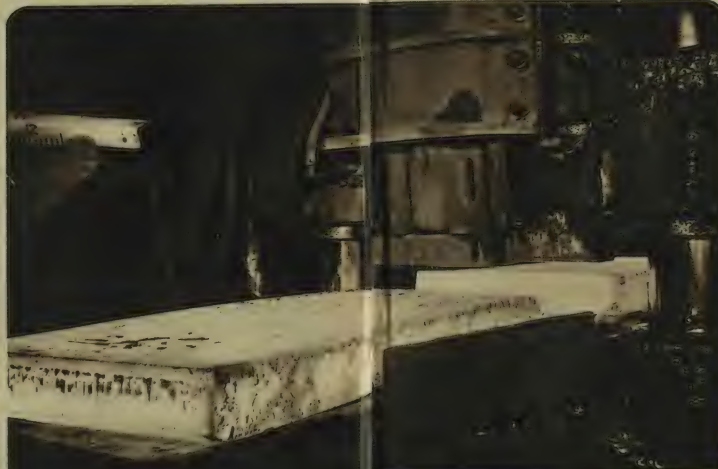
(Above.)
THE MANUFACTURING OF
CONTINUOUS WELD TUBES:
PART OF THE PROCESS AT
THE STEWARTS AND LLOYDS
LTD. WORKS AT CORBY.

AFTER the ingot stage, steel is "worked" by rolling, hammering or pressing. After being brought to a suitable temperature in reheating furnaces the ingots are either subjected to large-scale hammering and pressing (heavy forging), or else are transformed into a multitude of products of all shapes and sizes by rolling processes. The control of the temperature of the steel while it is being worked is a matter of great importance, and on it to a large extent depends the quality of the finished product. After the initial heavy rolling in the cogging mills, the steel is reduced into slabs or blooms of convenient length, and, usually after further re-heating, then passes to the finishing mills. Rolling mills are either continuous or reversing; in the former, the steel passes through a series of rolls, arranged in line; in the latter it passes



REMOVING A STEEL INGOT FROM A GAS-FIRED SOAKING PIT, WHERE IT HAS BEEN BROUGHT TO AN EVEN TEMPERATURE PREPARATORY TO BEING ROLLED IN THE COGGING MILL.

INSPECTING FINISHED TINPLATE, A MATERIAL MUCH USED IN THE CANNING INDUSTRY: A SCENE AT THE STEEL CO. OF WALES COLD REDUCTION PLANT AT TROSTRE.



THE SHEARING OF HEAVY PLATE: HAVING BEEN ROLLED DOWN FROM THE SLAB, THE PLATE IS CUT INTO REQUIRED LENGTHS.



FOLLOWING THE INITIAL SHAPING OF THE RED-HOT INGOT IN THE COGGING MILL: A SLAB OF STEEL BEING WITHDRAWN FROM A HEATING FURNACE, WHERE IT IS RETAINED BEFORE GOING TO THE PLATE MILL.

ONE OF THE CONTROL PANELS OF A CONTINUOUS STRIP MILL: THE COILER PULPIT AT THE HUGE ABBEY WORKS OF THE STEEL CO. OF WALES AT PORT TALBOT.



FROM INGOT TO BLOOM: A 4-TON STEEL INGOT IS REDUCED BY SUCCESSIVE PASSES THROUGH THE ROLLS OF THE REVERSING MILL TO TWO 40-FT.-LONG BILLETS 5 INS. BY 5 INS.

(Above.)
A TRAIN-LOAD OF 31-TON
RED-HOT STEEL INGOTS
BEING TAKEN TO THE ROLL-
ING MILLS: AT GUEST KEEN
IRON AND STEEL COMPANY'S
CARDIFF WORKS.

Continued.
backwards and forwards through the same rolls several times before reaching the desired shape. A modern rolling mill is integrally controlled from re-heating furnace to cooling bed; in the continuous type, as the product increases in length at every pass, each stand of rolls must run faster than the one before, calling for intricate synchronisation of speeds, finished strip emerging from the final stands at speeds of over 2000 ft. per minute. The increasing scale of modern production, and the growing complexity of equipment and associated controls, means that over most of the industry to-day companies must have large capital resources at their disposal; and the steel industry's development will continue to call for a high level of investment. From the plate, sheet, strip and bar emerging from the rolling mills a wide variety of products is made, as shown on a previous page.



THE BIG SQUEEZE: A RE-HEATED INGOT UNDERGOING A PRELIMINARY FORGING OPERATION IN A 7000-TON ELECTRO-HYDRAULIC FORGING PRESS AT THE ENGLISH STEEL CORPORATION'S RIVER DON WORKS IN SHEFFIELD.



A SOLID RAILWAY WHEEL BEING ROLLED TO SIZE AT THE ICKLES WORKS, NEAR SHEFFIELD, OF STEEL, PEECH AND TOZER (A BRANCH OF THE UNITED STEEL COMPANIES, LTD.).



USING POWER TO PROVIDE MORE POWER: A 7000-TON PRESS FORGING A POWER STATION BOILER FROM A GLOWING MASS OF STEEL AT THE ENGLISH STEEL CORPORATION LTD. WORKS, SHEFFIELD.

FROM TUBES AND TINPLATE TO POWER STATION BOILERS AND RAILWAY WHEELS:

Photographs by

THE MAKING OF MANY WIDELY DIFFERENT PRODUCTS FROM HUGE STEEL INGOTS.
Adolf Morath.

FROM A TUDOR GATEHOUSE TO A NEW EMBASSY: A MISCELLANY OF HOME NEWS.



THE NEW UNITED STATES EMBASSY IN LONDON: A MODEL. THE BUILDING IS TO OCCUPY THE WEST SIDE OF GROSVENOR SQUARE AND IS EXPECTED TO BE COMPLETED IN ABOUT TWO YEARS. THE ARCHITECT IS EERO SAARINEN.



OFFERING SLIPPER BATHS, A MODERN DO-IT-YOURSELF LAUNDRY AND THERAPEUTIC TREATMENT: NEW BATHS AT LAMBETH, LONDON. The new public baths and laundries in Lambeth, built on the site of former baths destroyed in the war, were officially opened on January 11. Besides slipper baths, and do-it-yourself laundries with ironing facilities, there are two baths for therapeutic treatment.



IN LULLINGSTONE PARK, NEAR EYNSFORD, KENT: THE TUDOR GATEHOUSE WHICH IS BEING RESTORED BY SIR O. HART DYKE WITH THE MINISTRY OF WORKS. The Tudor gatehouse at Lullingstone Castle, a Queen Anne house which has been the home of the Hart Dyke family since ca. 1500, is being restored by Sir Oliver Hart Dyke in conjunction with the Ministry of Works. In the grounds at Lullingstone are a Roman villa and a church.



THE FIRST OF THE NEW "BRAVE" CLASS FAST PATROL BOATS: H.M.S. BRAVE BORDERER BEING LAUNCHED AT PORCHESTER.

Brave Borderer, the first of the new "Brave" Class Fast Patrol Boats, was launched by Lady Grantham, wife of Admiral Sir Guy Grantham, at the Vosper Ltd. yard at Porchester on January 7. The engine of the new Class was illustrated in our last issue.



NEAR THE WINDSCALE ATOMIC ESTABLISHMENT: TESTING AIR FOR RADIO-ACTIVITY ON A FARM, DURING A ROUTINE INSPECTION.

The report of one of the committees, under the common chairmanship of Sir A. Fleck, which were appointed following the accident at the Windscale atomic establishment, was published as a White Paper on December 19. The creation of new senior technical posts in the industrial group of the U.K. Atomic Energy Authority was among proposals in the report.



CHECKING RADIO-ACTIVITY IN THE ATMOSPHERE AT SEA: AIR BEING TESTED ON BOARD A TRAWLER OFF THE COAST NEAR WINDSCALE, CUMBERLAND.



"H.R.H. THE PRINCESS MARGARET": A NEW PORTRAIT BY SIGNOR PIETRO ANNIGONI.

For this striking portrait, which is now in Princess Margaret's possession, her Royal Highness gave the artist fifteen sittings at Clarence House and a further six at Signor Annigoni's London studio. It was begun early last year and resumed in October, when certain changes were made at, it is understood, Princess Margaret's request. Like Signor Annigoni's portraits of the Queen (1955) and of the

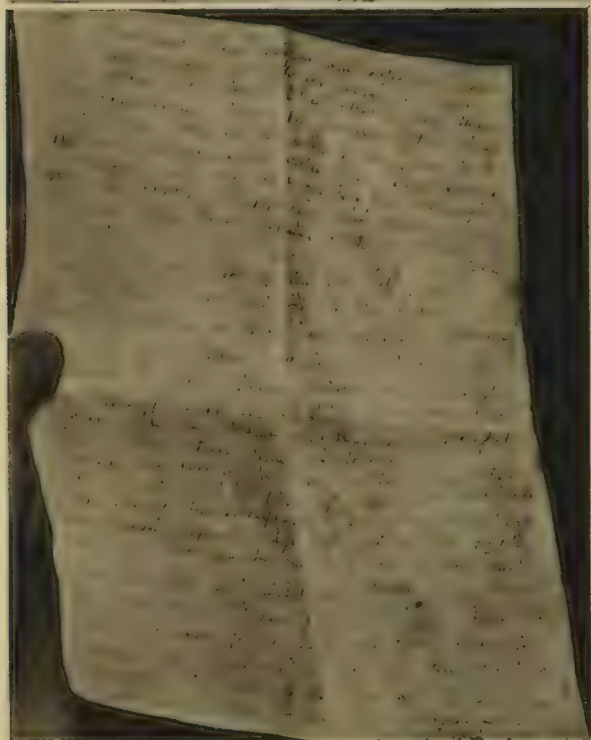
Duke of Edinburgh (1957), it shows the sitter bare-head. The Princess is seen in a romantic garden, wearing a simple white dress and dark stole. Behind her head in the blue sky rides a rosy cloud. Another point of colour is the rose in the right foreground; but the composition is such that the beholder's eye is inevitably drawn to the beautiful face, and especially to the large and lustrous eyes.

FROM *TITANIC* TO *PAMIR*, FROM AIRCRAFT TO BLINDWORMS: A MISCELLANY.

THE AIRLINER THAT LOST A WING: A *CONSTELLATION* WHICH, LANDING AT MACARTHUR AIRPORT, LONG ISLAND, NEW YORK, FOULED A SNOWDRIFT AND SHEARED OFF ONE WING.



CELEBRATING THE CENTENARY OF ITS BUILDING THIS MONTH: THE GODREVY ISLAND LIGHTHOUSE, NEAR PORTREATH, ON THE NORTH COAST OF CORNWALL, BETWEEN ST. IVES AND PERRANPORTH. ALTHOUGH CONTINUING ITS SERVICE, IT IS NOW AN UNMANNED LIGHT.



PRODUCED AT THE *PAMIR* INQUIRY: A MESSAGE FOUND IN A BOTTLE ON THE CORNISH COAST AND PURPORTING TO HAVE COME FROM THE SINKING *PAMIR*.

A message in German was found on January 5 in a bottle washed up on the Cornish coast and purporting to have been written by a member of *Pamir's* crew just before she foundered. It accused the captain of incapability; but was claimed by the ship's owners to be a forgery.



LIKE THE DEATH-THROES OF SOME GIANT INSECT OF SCIENCE-FICTION: A 105-TON CRANE TOPPLED OVER BY STRONG WINDS AT BRUNSWICK, WEST GERMANY. THE CRANE-DRIVER IS REPORTED TO HAVE ESCAPED WITHOUT INJURY; AND THE PROBLEM NOW REMAINING IS TO RE-ERECT THE CRANE.



CALLED TO PRODUCE PROOFS OF HER CLAIM: FRAU ANNA ANDERSON—OR THE GRAND DUCHESS ANASTASIA.

Frau Anna Anderson, who has claimed for many years that she was the surviving daughter of the last Tsar of Russia, the Grand Duchess Anastasia, has been given three weeks by a Hamburg court to produce proofs.



COPENHAGEN ZOO'S STROKE OF LUCK: ONE OF THE SEVEN SPECIMENS OF THE EXTREMELY RARE FOUR-LEGGED BLINDWORM, *DIPLOGLOSSUS LESSONÆ*, ACQUIRED BY ACCIDENT. Copenhagen Zoo a few months ago acquired from Brazil seven small reptiles, believed to be tropical lizards. One died recently and on examination by Professor Braestrup proved to be an extremely rare four-legged blindworm, of which previously only four specimens were known since 1890.



THE DISASTER OF THE ILL-FATED *TITANIC* RE-ENACTED: A SHOT OF PART OF A FULL-SCALE REPLICA AT PINEWOOD STUDIOS, SHOWING THE LIFEBOATS.

A film called "A Night to Remember," retelling the story of the *Titanic* disaster of April 15, 1912, when the great liner sank on her maiden voyage with the loss of 1513 persons, is now being made at Pinewood; and a huge model of the famous White Star liner has been made for the purpose.

PERSONALITIES AND EVENTS OF THE WEEK: PEOPLE AND OCCASIONS IN THE PUBLIC EYE.



**THE LATE PRESIDENT OF RUMANIA:
DR. PETRU GROZA.**

Dr. Petru Groza, President of the Præsidium of the Grand National Assembly of Rumania since 1952, died on January 7. Born in 1884, and trained as a lawyer, he entered politics after the 1914-18 War. In 1933 he took part in the foundation of the Ploughmen's Front Party, and held various Government offices before becoming Premier in 1945.



TO BE APPOINTED JUDGES OF THE HIGH COURT OF JUSTICE: (L. TO R.) MR. HERBERT DAVIES, Q.C., MR. RICHARD ELWES, Q.C., AND HIS HONOUR JUDGE G. W. WRANGHAM.

The Queen has signified her intention of appointing these three new High Court Judges. His Honour Judge Wrangham, Divorce Court and County Court Judge for Hull and East Riding, will be assigned to the Probate, Divorce, and Admiralty Division, and both Mr. Davies, Recorder of Cardiff, and Mr. Elwes, Recorder of Northampton, to the Queen's Bench Division.



**ELECTED PRESIDENT OF RUMANIA:
MR. ION GHEORGHE MAURER.**

Mr. Ion Gheorghe Maurer was elected by the Assembly on Jan. 11 as President of Rumania, in succession to Dr. Groza, who died on January 8. Mr. Maurer, who has been Foreign Minister since July, entered the Rumanian Parliament after the 1939-45 War. He has twice represented Rumania at the United Nations in New York.



AWARDED THE R.I.B.A. GOLD MEDAL: MR. R. S. MORRIS.

The Royal Institute of British Architects has awarded the Royal Gold Medal for 1958 to a Canadian architect, Mr. R. S. Morris, partner in the Toronto firm of Marani and Morris. Mr. Morris has been President of the Royal Architectural Institute of Canada.



IDENTICAL WITH THAT FROM WHICH HE RESIGNED ON DECEMBER 31: MR. BEN-GURION WITH HIS NEW ISRAELI CABINET, WHICH HE PRESENTED TO THE KNESSET ON JANUARY 7.

The members of the new Israeli Coalition Cabinet, which was given a vote of confidence by the Knesset, are seen here with the Israeli President, Mr. Itzhak Ben-Zvi. They are (seated, l. to r.): Mr. L. Eshkol (Finance), Mr. I. Bar-Yehuda (Interior), Mrs. G. Meir (Foreign Affairs), The President, Mr. David Ben-Gurion (Prime Minister), Mr. P. Rosen (Justice), and Mr. P. Naphtali (Without Portfolio); and (standing, l. to r.) Mr. M. Namir (Labour), Mr. Z. Aranne (Education and Culture), Mr. P. Sapir (Trade and Industry), Mr. B. Shitreet (Police), Mr. K. Luz (Agriculture), Mr. I. Barzilai (Health), Dr. J. Burg (Posts and Telegraphs), Mr. M. Bentov (Development), and Mr. M. Carmel (Communications).



A DIAMOND MILLIONAIRE: THE LATE DR. JOHN WILLIAMSON.

Dr. John Thoburn Williamson, the diamond millionaire and the owner of the Mwadui Diamond Mine in Tanganyika, died on January 7 aged fifty. Dr. Williamson, who was born in Quebec, gave the world's largest pink diamond to the Queen as a wedding present.



APPOINTED GOVERNOR OF TANGANYIKA: MR. R. G. TURNBULL.

Mr. R. G. Turnbull, who has been Chief Secretary of Kenya since 1955, has been appointed Governor and C-in-C. of Tanganyika in succession to Sir Edward Twining, whose term of office expires in June. Mr. Turnbull, who is created a K.C.M.G., is forty-eight years old.



A PROMINENT POLITICIAN: THE LATE MR. WALTER ELLIOT.

Mr. Walter Elliot, who had been Conservative M.P. for the Kelvingrove division of Glasgow since 1950, died suddenly on January 8 aged sixty-nine. He was Minister of Agriculture from 1932-36, Secretary of State for Scotland, 1936-38, and Minister of Health, 1938-40.



WINNER OF THE HASTINGS CHESS TOURNAMENT: MR. PAUL KERES.

Mr. Paul Keres, the Soviet Grandmaster, won the Premier Tournament at Hastings with a final score of 7½, having been unbeaten until the ninth and last round on Jan. 8 when he lost to the Yugoslav player, Gligoric, who finished second.



IN SWITZERLAND ENJOYING THE WINTER SPORTS AND THE SUNSHINE AT ST. MORITZ: MEMBERS OF THE BRITISH PARLIAMENTARY SKIING TEAM.

The members of the British Parliamentary skiing team have been among those competing in the winter sports at St. Moritz. Our photograph shows (l. to r.) Lord Forbes; Mr. I. J. Pitman; Mr. Godman; Mr. J. Diamond; Mr. E. Marples; Lord Selkirk; Mr. C. I. Orr-Ewing and Sir Charles Taylor.



WINNER OF THE PRESIDENT'S PUTTER: LIEUT.-COLONEL A. A. DUNCAN.

On January 12 Lieut.-Colonel A. A. Duncan won the President's Putter when he beat A. T. Gardiner-Hill by three up and two to play in the 18-hole final at Rye. It was his second victory; he previously won the President's Putter in 1948.



MORE than once on this page I have drawn attention to the extraordinary number of fine things to be found in the little museums of France. Who, I enquired recently, would expect to come upon a splendid Jerome Bosch in the Municipal Museum at St. Germain-en-Laye? The French Government, in staging an exhibition, to which the Royal Academy is a willing host, designed to illustrate the age of Louis XIV, has drawn upon these little-known resources, and—with a few additions from Paris itself—has

A PAGE FOR COLLECTORS.

By FRANK DAVIS.

THE AGE OF LOUIS XIV AT BURLINGTON HOUSE.

It appears to be the fashion to hail all kinds of obscure Frenchmen who industriously followed in the wake of Caravaggio—and most of them followed a long way behind—as somehow divinely inspired. Many of them appear to me to be indifferent, if not downright bad painters without a spark of originality. Then, suddenly, and here the show becomes truly glorious, you find yourself holding your breath before no fewer than nine paintings by Georges de la Tour (1593-1652), who had nothing to do with Paris but lived in Lunéville, in Lorraine, all his life. Here is indeed a real painter, limited perhaps as a colourist, but most moving and sincere. This one room, alone in its quiet serenity, justifies the whole exhibition—indeed, justifies the whole century, and that in spite of the beautiful paintings by two of the

Le Nains, whose reform of the Academy made it into a fully-equipped school for young artists and at the same time established it as a dictatorship. But though it is reasonable to use the word "minor" to describe all these numerous painters, I should hate to think anyone could imagine that they are not worth prolonged study; next to a Rembrandt many Dutch painters, fine fellows by themselves, can appear rather unimportant. And that reminds me—to see this exhibition in perspective it is worth remembering that this period in France coincides with the period of all the great names of Dutch painting and that the influence of Holland and of Flanders is considerable.

There is a great deal of pleasure to be derived from avoiding the fashionables of the court (though I must admit that Le Brun's oil sketch of Marshal Turenne is extremely fine and sensitive) and browsing around among the unknowns—unknown to me, that is, though, I presume, the names will be fairly familiar to most Frenchmen. Somebody, for example, like Michel Corneille, whose mannered little picture of Fig. 1—partly Italian, partly Dutch, but somehow wholly French in feeling—is beautifully contrived, and contains some admirable still-life: pewter and copper pots and pans, a glass of wine, a loaf of bread, dog, cat, and so forth—all patiently and affectionately delineated, and with the profile of one brother silhouetted against a roller-towel; it's small beer, I admit, but how far less boring and pretentious than most court painting! And here (Fig. 2) is an equally modest man, Pierre Dupuis, who seems to have specialised in still-lives, and in this picture performs a *trompe-l'œil* conjuring trick, for the bloom on these plums is such that you are tempted to stretch out your hand—and there are many other paintings of a similar character, including two by a woman, Louise



FIG. 1. "ESAU SELLING HIS BIRTHRIGHT TO JACOB," BY MICHEL CORNEILLE (1602-1664): ONE OF THE PAINTINGS AT BURLINGTON HOUSE WHICH FRANK DAVIS DISCUSSES IN HIS ARTICLE ON THE CURRENT R.A. WINTER EXHIBITION. (Oil on canvas: 45½ by 49½ ins.) (Musée d'Orléans.) (Photograph by Giraudon.)

provided a fascinating picture of the world in which the Sun King grew up, ruled, and in due course died, having very nearly ruined his country and unknowingly sown the seeds of eventual revolution. It was what pedagogues label "a great age," with a strong central government, cantankerous provincial magnates turned into obsequious courtiers, and the whole dazzling structure typified by Versailles and its contents.

Enter the Central Hall of the Academy and you are faced by a flamboyant bust of Louis, and enclosed by four magnificent Gobelin tapestries—four of the fourteen known as the *Histoire du Roi*, from the designs of Charles Le Brun and Van der Meulen, and all, as was Versailles itself, made to glorify the monarch. They are so fine technically, and have such insidious charm, that one does not bother to analyse them. Indeed, to the modern mind their subjects seem somewhat absurd—Louis self-consciously prancing about on the battlefield is just part of the flattery extended to all monarchs, and one takes it as a matter of course, just as one accepts the classical myths in the other tapestries. The convention may be ridiculous, but the manner is beyond compare. One can scarcely expect to find great painting in a court atmosphere of such sycophancy. What one does find is a grandiose magnificence in the minor decorative arts, and it is one of the disappointments of the exhibition that not a single piece of furniture is to be seen. The expense and difficulty of bringing over a whole collection of rare furniture is considerable and no one has the right to expect it. But a few fine pieces borrowed from the London Museums would have made Gallery III less bleak and would have done much to give the show a more popular appeal.

possible from the strained classicism of their time.

A marvellous Poussin from the Louvre, the so-called "Landscape with Diogenes," a huge picture which Louis XIV had the good sense to buy in 1665, is the finest of several by the man who worked in Rome all his life with the exception of the two years 1640 to 1642, when he was commissioned to decorate the Long Gallery of the Louvre—and was only too happy to escape from the intrigues and bickerings and jealousies in which he found himself involved. As for Claude, the other truly international figure of the century, he also stayed in Rome, and never came near France except for two years after 1625. One can then assert that of the great painters of *Le Grand Siècle* whom we can classify as French, Poussin, born in Normandie, worked almost wholly in Rome, the Lorrainer Claude followed his example, the Lorrainer Georges de la Tour remained in his Duchy and never ventured to Paris, and the brothers Le Nain—all born at Laon, on the frontier—kept to peasant and religious subjects and, though members of the Academy, do not appear to have worked for the court.

This leaves me with a host of minor people, among whom we can include the precocious



FIG. 2. "THE BLOOM ON THESE PLUMS IS SUCH THAT YOU ARE TEMPTED TO STRETCH OUT YOUR HAND": "BASKET OF PLUMS," ONE OF TWO STILL-LIFES BY PIERRE DUPUIS (1610-1682) IN THE WINTER EXHIBITION. (Oil on canvas: 20½ by 24½ ins.) (Musée de La Fère.) (Photograph by Giraudon.)

Moillon, also influenced by Flemish examples, and from whose hand are dated pictures from 1629 until 1674. (She died in 1696 aged eighty-five or eighty-six.)

Indeed, the more you can escape from the court, the happier you will find yourself—even with Van der Meulen, whose preliminary sketches of horses interest me far more than his great battle pieces. Nor must one forget four landscapes by Desportes, who was employed under both Louis XIV and XV to paint hounds and still-lives and hunting scenes; it was for the hunting scenes that he made these small preparatory landscape sketches. They are not very good perhaps, but though painted presumably about 1700, are oddly nineteenth century in feeling; one could easily set them down as by a minor painter of the 1840's or 1850's.

WILSON, COZENS, DE WINT AND PALMER: FROM
AGNEW'S EXHIBITION OF WATER-COLOUR DRAWINGS.



"GROTTA FERRATA": ONE OF THE TWO ITALIAN DRAWINGS BY RICHARD WILSON, R.A. (1714-1782), IN THIS INTERESTING EXHIBITION. (Black chalk and stump, heightened with white: 11½ by 16½ ins.)



"THIRD VIEW UPON THE REICHENBACH," BY J. R. COZENS (1752-1797). (Pen and ink and wash: 14½ by 9½ ins.)



"THE VILLA MONDRAGONE AT FRASCATI": ANOTHER OUTSTANDING WORK BY J. R. COZENS. (Water-colour: 15 by 10½ ins.)



"THE WESTMORLAND HILLS," BY PETER DE WINT (1784-1849), WHO WAS BORN IN STAFFORDSHIRE, THE SON OF A DOCTOR OF DUTCH ORIGIN. (Water-colour: 18 by 24 ins.)



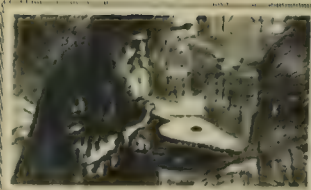
"HARLECH CASTLE," AN IMPORTANT WORK BY SAMUEL PALMER (1805-1881), WHICH WAS EXHIBITED IN 1843, THE YEAR OF HIS THIRD VISIT TO WALES. (Water-colour: 20 by 27½ ins.)



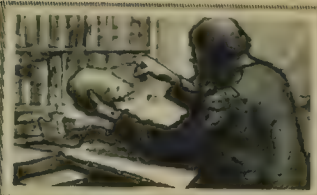
"THE GOATHERD," A SHOREHAM PERIOD DRAWING BY SAMUEL PALMER IN THE AGNEW'S EXHIBITION, WHICH CONTINUES UNTIL THE END OF FEBRUARY. (Water-colour: 7½ by 11 ins.)

There are some 160 works in the 85th Annual Exhibition of Water-Colour Drawings at Messrs. Thos. Agnew and Sons, 43, Old Bond Street, the first edition of which opened on January 13. Among the earlier examples are a series of small drawings by Alexander Cozens and the two impressive works by his son, John Robert Cozens, shown here. The two drawings by Richard Wilson were among those commissioned in Rome in 1753 by

the Earl of Dartmouth, and recently re-discovered by the present Earl. There is a large group of drawings by Thomas Rowlandson, and David Cox and Samuel Prout are also well represented. Each year this exhibition contains a group of water-colours by a contemporary artist, and on this occasion Robin Darwin, who is the Principal of the Royal College of Art, is showing a series of recently drawn Spanish scenes.



THE WORLD OF SCIENCE.



I SUPPOSE we all at some time or other fall into the error of describing somebody with a placid countenance as having a bovine expression, mistaking an apparent lack of intelligence for a real lack of it. Bovine is a word I shall now use with greater discretion since Jason took me to the cows. We were out walking at dawn, he at heel and behaving well. Then I noticed he had quietly slipped away, through the fence bordering a meadow and was following, nose to ground, an erratic trail through the grass, and at that moment was approaching a cow. My call to him was disobeyed and for good reason. The cow, head down, was advancing on him and chivying him.

There was only one thing to do, go over and fetch him. So, with him on the lead I started back towards the fence, the dog all the time looking first over one shoulder, then over the other, as the cow followed hard on his heels. Meanwhile, the rest of the herd had gathered from all over the field and were now following us in a stolid line, those on the wings beginning to quicken their pace to close in on us.

During this moment my mind reverted to another episode that had taken place a few weeks previously in another field not so far from this one. A spaniel had lagged behind from a shooting party crossing the field. Its owner called, but on that occasion, also, the dog could not obey because of the attentions being paid by a cow. Soon a second cow joined in, and the two passed the dog from the one to the other while the rest of the herd, in a surprisingly short time, had assembled. They formed a circle, with the dog in the centre, and proceeded to butt it, at the same time trying to trample it.

Such episodes are, I am confident, commonplace events to those who, like Mr. A. Brownlee, know cattle well. In a recent discussion in the *British Veterinary Journal* (October 1957) he gives a succinct analysis of the way cattle behave. He makes a distinction between the lower and higher nervous activities, but deals more with the latter.

The lower nervous activities are those which arise in response to stimuli from within the animal itself. They are the behavioural equipment with which it is born and therefore owe nothing to the circumstances it may later meet, or to experience, and nothing can alter them. Thus, a calf does not have to learn to ruminate or masticate. The first time it gets on to its feet, following a resting period after being born, a calf will stretch, using movements characteristic of its species. It will also shake itself, and groom its skin by licking, and it will take up characteristic positions when excreting. These, and doubtless numerous other actions less obvious and less easy to define, it will carry on from the first, and although learning and future experience may add a slight improvement in their performance they do not undergo any fundamental change.

The higher nervous activities are dependent upon learning and experience, upon memory and upon the application of previous learning to new situations. Inborn potentialities may be called into play, but in these higher activities there is greater economy of effort. Thus, in the search for food, the ability to learn and memorise enables the animal to go on future occasions to a source of food directly instead of having to forage again. In the matter of curiosity, also, a strange object will be investigated and memorised, after which it becomes part of the familiar surroundings.

Learning and memorisation start early in life. A newly-born calf has the instinct to nuzzle the under-surfaces of the dam's body and to suck the skin. In time it finds a teat; but the second time it finds the teat more quickly. Taken from its

INTELLIGENCE OF COWS.

By MAURICE BURTON, D.Sc.

mother it has to search again for a source of food, but again it can be taught to drink from a bucket, by giving it a finger to suck, thus guiding the muzzle to the milk. The same learning ability comes into play in later life, as when a cow will put its fore-feet on to a raised platform to reach up, or will go down on its knees to reach under a fence. Brownlee quotes an instance of a bull, fed mangolds in a long trough glazed on the inside,



TEACHING A CALF TO FEED FROM A BOTTLE: THE NATURAL FEEDING IMPULSES OF A CALF CAN SOON BE TRANSFERRED TO THIS ARTIFICIAL EQUIPMENT AFTER SOME INITIAL GUIDANCE, SUCH AS, IN THIS CASE, WITH A FINGER.

such feats. Even an hour-old calf will walk round its loose-box examining every part of it and every object in it. Any new object subsequently introduced will be treated with suspicion, to be investigated with senses on the alert. On the other hand, a familiar object, say a wheelbarrow, moved from one place to another, will be treated as an old friend. Introduced into a new environment, the same exploratory behaviour is seen, the animal examining and memorising everything.

More definite examples of memory must be numerous, and instances well known to those used to dealing with cattle. Thus, cows used to going to their own stalls will do so again even after being continuously at pasture for months. Then there are the following isolated examples. Of three cows put into a loose-box overnight, one was butted by the other two. The following day they were all put to pasture, and when, in the evening, the three were again shepherded towards the loose-box, the cow that had been beaten up took strong evasive action to avoid a repetition of the previous night's trouble. A herd of cows, at pasture by day and housed by night, were changed one afternoon from a relatively bare pasture to an abundant one. The next morning, many of the cows made at once for the rich pasture instead of the one to which they were accustomed. A bullock that had been fed as a calf from bottle and teat, when presented again with this same equipment at the age of two years, began to suck the teat as formerly.

Domesticated animals, and especially those kept for utilitarian purposes, are apt to lead circumscribed lives in which initiative is discouraged. Added to this, the general security they enjoy in the matter of food, shelter and protection does nothing to call forth resourcefulness. The value of Mr. Brownlee's studies, which are given here in a somewhat inadequately brief form, is that they indicate some of the basic elements in the behaviour, and allow us from these to appreciate the higher flights in the wild behaviour.



THREE COWS STANDING IN FORMATION AS THEY WOULD DO, FOR EXAMPLE, WHEN CHIVVING A DOG. COWS HAVE AN APPRECIATION OF SPATIAL RELATIONS, AND CAN EXERCISE SOME JUDGMENT OVER THEIR OWN MOVEMENTS IN REGARD TO THE POSITIONS OF OTHER OBJECTS. (Photographs by Jane Burton.)

having difficulty in grasping the food on this slippery surface. The bull learned to throw the mangolds out on to the bedded floor, to get a firmer grip on them. He may have done this accidentally at first, but can we say the same of the other feats?

A heifer learned to open the half-door of its loose-box by pushing the bolt with its muzzle. Another achieved the same end by pushing the bolt with its horn. A third would turn on a tap to drink. Whether such exploits are the result of accident we cannot even guess, because they are never seen until they have been perfected. The fact remains, however, that curiosity plays a large part in learning, and it may have been originally a curiosity, an impulse to investigate, which led to

In the anecdotes with which I started another factor comes into play—namely, an appreciation of spatial relations. A cow lying down in a corner of a stable, and seeking to avoid dirty bedding, seems able to judge the space required for its body before it begins to lower itself. They can judge distances in other respects. Brownlee gives the following, among several examples. "A herd of cows at Compton was being strip-grazed, an electric fence being used. At the time of the incident most of the cows were grazing in the vicinity of a point X. A group of cattle transported by road was unloaded from a motor-truck at a gateway into another field nearby. The cows at X saw the unloading and were interested, as indicated by their looking towards the scene and alerting their ears, but they did not move one step in that direction, apparently realising that, had they approached the short distance to the electric fence barrier, there would still be a great distance (some 500 yards) between them and the unloaded

cattle. When, however, the unloaded cattle commenced to gallop in the direction of a point B, many of the cows galloped wildly from point X towards point Y and the two herds, when at the terminus of their respective gallop, were only the distance of the roadway apart. That the cows did not move towards the stranger cattle on first seeing them probably resulted from an innate ability to appreciate spatial relationships of this kind, as I do not recall having seen young calves behaving in a manner such as would indicate inability to do so." In surrounding the dog, in the instance I have quoted, the cows took up positions not only in respect to each other but also in relation to their quarry—the dog—using an appreciation of spatial relations worthy of a well-trained squad of men.

PHOTOGRAPHY BY FUNGUS-LIGHT:
TOADSTOOLS WHICH SUPPLY THE
LIGHT FOR THEIR OWN PORTRAITS.

LUMINESCENCE or phosphorescence in fungi occurs throughout the world; and indeed there are over fifty luminous species. In these photographs, however, taken by Mr. Y. Haneda, Director of the Yokosuka City Museum, Japan (and reproduced by courtesy of *Natural History*), the plant's own light has been most ingeniously used to demonstrate its own nature. In these pairs of photographs, luminescent species have been twice photographed—once by daylight and then by the plant's luminescence

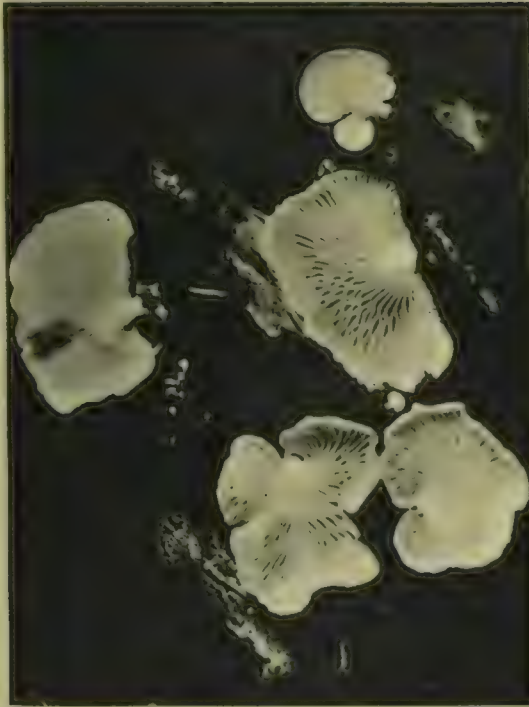
[Continued below, right.]



PHOTOGRAPHY BY FUNGUS-LIGHT: A SMALL JAPANESE TOADSTOOL, *MYCENA LUX-CÆLI*, PHOTOGRAPHED (ABOVE) BY DAYLIGHT AND (BELOW) BY ITS OWN BLUE PHOSPHORESCENCE.



BY DAYLIGHT (LEFT) AND BY ITS OWN GREENISH LIGHT: A FUNGUS FROM THE JUNGLE NEAR TAWAO, NORTH BORNEO, *MYCENA MANIPULARIS*. THE PHOTOGRAPH ON THE RIGHT WAS TAKEN WITH A F.3.5 LENS AND A 60-MINUTE EXPOSURE.



A LARGE FUNGUS FROM PALAO ISLAND, MICRONESIA, *PLEUROTUS NOCTILUCENS*, ALSO PHOTOGRAPHED BY DAYLIGHT (LEFT) AND ITS OWN LIGHT. IN THIS SPECIES THE ORANGE LUMINESCENCE SEEMS STRONGER IN THE YOUNGER SPECIMEN (TOP).

[Continued.]

alone, in a photographic dark-room. The film used was Eastman XX and these results were obtained either with an F.1.5 lens opening with a 30-minute exposure or with an F.3.5 opening and exposures varying between one and two hours. Colour film can be used but the exposure time has to be increased by three or four times. Perhaps the best-known European luminous fungus is *Pleurotus olearius*, which is usually found at the base of olive trees. This has an orange glow, the gills being always luminous, the remainder usually, except for the spores, which are never luminous. This is also found in California; but the commonest American luminous fungus is the Jack-o'-Lantern, or False Chanterelle (*Clitocybe illudens*). This also has an orange light. The greater number of these phosphorescent toadstools or mushrooms, however, are found on decaying wood in the woods and jungles of tropical Asia. The strength of their light varies considerably and the colour likewise, some being green, some yellow, some blue, and some ranging from yellow to blue through green. In some the whole plant or fruiting body is luminous, in others the gills, in others the stalk, and in two species (found in Rabaul, New Britain, and in Singapore) only the spore is phosphorescent, and even so only when wet. In some parts of tropical Asia, children smear their faces with such fungi at night to frighten each other with features weirdly glowing in the darkness; and in the islands of Micronesia the glowing fungi have

[Continued below.]



IN THIS VARIETY (*MICROPORUS*) OF *MYCENA MANIPULARIS*, THE WHOLE FRUITING BODY HAS A BLUE LUMINESCENCE, BUT THE STALKS (LOWER PICTURE) RESEMBLE BRILLIANT NEON TUBES.

[Continued.]

been used as ornaments during moonlight dances. On the island of Palao, for example, phosphorescent fungi were formerly used by the women as decorations in their hair. In general, however, simple peoples tend to fear phosphorescence; and in cases where the mycelium or vegetative stage of the fungus is also phosphorescent and takes the form of net-like threads running through rotting bark, the resulting blue-glowing designs may well have an eerie effect in the darkness of the jungle.

IN AN ENGLISH GARDEN.



IF one were shown a good specimen of the strawberry-tree, *Arbutus unedo*, in full flower and fruit—never having met it before—and were told that it is a British native, it

would, I fancy, be a little difficult to believe. It would seem too good, too exotically beautiful to believe. Those neat, bay-like, lustrous-green leaves, the drooping panicles of little bell-blossoms like lily-of-the-valley, white, and often tinged with

THE STRAWBERRY-TREE.

By CLARENCE ELLIOTT, V.M.H.

The strawberry-tree is widely distributed in the Mediterranean region, and is one of the few ericaceous plants which will flourish on limy or chalky soil. As to its hardiness in this country, *Arbutus unedo* seems to be happiest in the milder and moister districts, though Bean, in his "Trees and Shrubs Hardy in the British Isles," says that it has withstood 30 degs. of frost at Kew. One of the greatest attractions of the strawberry-tree is its habit of flowering and fruiting at the same time,

in the winter months. The "strawberries" which were formed one winter reach full maturity and beauty exactly a year later, when the next season's flowers are open, and the contrast of the large red fruits with the pendant racemes of little parchment bells among the deep-green leaves is one of the most beautiful things in the garden during winter.

spot as can be found, especially in the colder parts of the country.

There is in cultivation a variety of *Arbutus unedo* with deep pink flowers, *A. u. rubra*. It was discovered growing wild by the Irish botanist Mackay near Glengariff about 1835. It usually makes a low-spreading bush rather than a small tree. It is propagated by grafting on the normal white-flowered type, and is apparently somewhat rare in gardens. The only specimen which I have seen is the one growing in the University Botanic Gardens at Cambridge.

It sometimes happens that *Arbutus unedo* is shy about flowering and fruiting, but why this should be it is difficult to say. It has been suggested that this non-fruiting may be due to the necessity for inter-pollination between flowers on separate individual trees. But I do not think that that is the cause, for I have known isolated specimens of the strawberry-tree growing far from any other specimen which yet flowered and fruited freely. It is, I think, more probable that when a non-flowering strawberry-tree occurs it is



THE FLOWERS, FRUITS AND LEAVES OF *ARBUTUS UNEDO*.

In Mr. Elliott's words: "Those neat, bay-like, lustrous-green leaves, the drooping panicles of little bell-blossoms like lily-of-the-valley, white, and often tinged with pink, and the rich, red berries like rounded strawberries little less than an inch diameter, together with the rust-red bark of the tree's trunk make an ensemble of outstanding beauty." (Photograph by R. A. Malby and Co.)

pink, and the rich, red berries like rounded strawberries little less than an inch in diameter, together with the rust-red bark of the tree's trunk, make an ensemble of outstanding beauty. A botanical pilgrimage which I have long hoped to make, but never managed to accomplish, is to visit Killarney, in South-West Ireland, where the strawberry-tree grows on the islands and the shores of the lakes in profusion, and perhaps more luxuriantly than anywhere else in its regions of distribution. As a shrub or small tree *Arbutus unedo* grows from 10 or 15 ft., or, in a climate which best suits it, to a height of 30 or even 40 ft.

Although it is called the strawberry-tree on account of its red fruits, these have never struck me as particularly strawberry-like. They are globose, rounder than any normal strawberry, and their surface has a curiously rough granular texture. And to eat, though harmless, they are most unstrawberry-like, being mealy-dry and tasteless. But when plant-collecting in Corsica some forty years ago I ate processed *Arbutus* fruit and found it delicious, but profoundly discreditable. The fruits were specially processed, first by blackbirds—or thrushes—and finally by chefs. The final product was a local delicacy called *pâté merle*. When botanising among the Corsican mountains and maquis I found the *Arbutus* growing in great quantity, and beauty. I met, too, a great many picturesque stage brigands, armed with long guns—genuine antiques. They were out after blackbirds—or thrushes—and doubtless any other small birds which fatten on the *Arbutus* berries, and which finally become *pâté merle*. I ate this delicacy once, whilst I was in the island, but though I found it good, I can not honestly say that fattening on *Arbutus* berries seemed to have imparted any specially delicious flavour to the unfortunate blackbirds—or thrushes. The Corsican honey, on the other hand, gathered from the numerous aromatic wild flowers, was most distinctive, and, if anything, almost too strongly flavoured.

It is unfortunate that the strawberry-tree is not grown more often in our gardens. It is quite easy to raise from seed, but is said to transplant badly when it has grown to any appreciable size. It is best, therefore, to pot up the seedlings whilst quite young and small, and grow them on in pots until large enough to plant out in their permanent quarters. As an isolated specimen on lawn, the strawberry-tree is especially beautiful, and it is best to select as sheltered a



THE STRAWBERRY-TREE IN FLOWER AND FRUIT: A PLEASING WATER-COLOUR FROM AN UNKNOWN SOURCE.

due to lack of some ingredient in the soil, perhaps what is so often and so vaguely referred to as some trace element.

Four other species of *Arbutus* are described in Bean, and of these he gives pride of place to *Arbutus menziesii*, which in its native country—California—reaches a height of as much as 100 ft., and it is there known as the Madroña. One of the most striking features of the Madroña—apart from its large dark glossy leaves, which are glaucous, often almost white, on the under side—is the peeling bark of a rich cinnamon red. It is hardy at Kew, and is capable of reaching a height of 50 ft. Its berry-like orange fruits are only about the size of a pea, and in this matter the strawberry-tree is undoubtedly the more beautiful.

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AT THE MINISTRY OF SUPPLY CLOTHING AND STORES EXPERIMENTAL ESTABLISHMENT: TWO SOLDIERS CRAWLING OVER ROUGH SOIL TO TEST COMBAT CLOTHING.



IN THE APPLIED PSYCHOLOGY SECTION: AN INFANTRYMAN SEATED ON A MACHINE DESIGNED TO TEST HIS REACTIONS TO BEING BOUNCED UP AND DOWN.



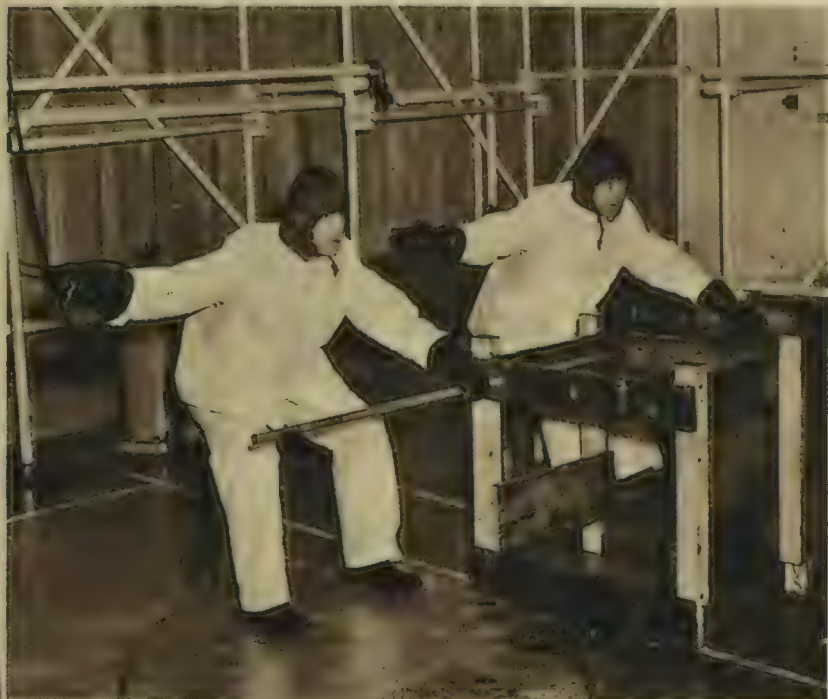
ON THE QUARTER-MILE-LONG BOOT TRACK AT THE EXPERIMENTAL ESTABLISHMENT: ARMY BOOTS BEING TESTED ON A STRETCH OF BROKEN BLOCKS OF CONCRETE.

The Ministry of Supply Clothing and Stores Experimental Establishment at Farnborough, Hampshire, has two tasks—to test the efficiency of many different types of equipment, and to test the effect of the equipment on the man. Until September 1955, the practical and the physiological testing were carried out by separate organisations, which were then amalgamated to form the present establishment. A striking feature at Farnborough is the quarter-mile-long Boot Track, which incorporates stretches of all the various surfaces

TESTING ARMY CLOTHING: A MINISTRY OF SUPPLY RESEARCH ESTABLISHMENT.



ON THE ASSAULT COURSE AT THE ESTABLISHMENT: TWO MEN TACKLING A STONE WALL DURING A TEST CARRIED OUT ON COMBAT CLOTHING.



IN THE RAIN-SHED AT FARNBOROUGH: TWO SOLDIERS "MOTOR-CYCLING" THROUGH DRIVING RAIN DURING A TEST ON TWO TYPES OF GAUNTLET.



"IT'S A LONG WAY TO . . .": TWO PAIRS OF ARMY BOOTS—AND FEET—BEING TESTED ON THE CONCRETE BLOCK SECTION OF THE BOOT TRACK.

likely to be encountered by the army boot. The Assault Course is designed to put combat clothing through every conceivable test, while in the rain-shed all types of weather and wind conditions can be achieved to test equipment. On its physiological side the Establishment has a number of laboratories where exhaustive tests are carried out to study the effect of clothing and equipment on the men who have to use them. The applied psychology section works on "human engineering" problems and man-machine interactions.



NATURE'S WONDERLAND. SERIES II. NO. 9. TOOL-USING AND MAKING, AND

It is sometimes suggested that man's development beyond the rest of the animal kingdom depends on two things—his ability to make and use tools, and his ability to communicate and record his thoughts and acquired knowledge. The use and manufacture of tools immensely increase his physical capabilities; whereas the use of speech and the recording of ideas lead to that growth of knowledge by a sort of compound interest which is the basis of civilisation. The first origins of these two great developments are naturally lost in the dawn of mankind, especially as regards the birth of communication; but stone tools

are virtually everlasting and can be found in nearly all regions of the world, in various stages of evolution and from many ages, some, indeed, being still in use, as, for example, among the Australian aborigines. And on the left-hand side of the picture our artist records many forms—from the chance-convenient stones, which the apemen used, to those refined and specialised forms which were only ousted by the discovery of copper and bronze; some of the uses to which they were put; some methods of manufacture; and some of the alternative materials such as bone, horn and wood. As regards these last, it seems reasonable

Drawn by our Special Artist.



SELF-EXPRESSION IN ART AS THE FIRST STEPS IN THE LONG ASCENT OF MAN.

to suppose that they were, if available in the particular climate, at least as common as stone; but they are not so durable and need luck and specialised conditions to survive to this day. On the other half of the page our artist shows what is probably the earliest that we are likely to discover of the birth of communication. It seems impossible that we shall ever learn the origins of speech; the origins of writing are much later; but art, whether in drawing or sculpture, connotes the intention to record and communicate—either feelings, descriptions or the purposes of magic; and, as the cave paintings of Altamira and Lascaux show, an

Neave Parker, F.R.S.A.

extraordinary skill in art was reached by the Magdalenians and Aurignacians of more than 15,000 years ago. The tools of the Magdalenians are pathetically inefficient by modern standards; but no modern artist would be ashamed to sign the bulls of Altamira. It has been said that the life of the embryo re-enacts the progress of evolution; and it might likewise be said that the life of a child parallels the infancy of mankind. Few of the crafts, tools and weapons shown above will seem unfamiliar to the reader who recalls a childhood spent in the woods and on the seashore; and what child has not traced round his own splayed-out hand?

THE WORLD OF THE THEATRE.

TAKING A CALL.

By J. C. TREWIN.

IT is some little time since I have seen an author on his first night. Reasonably, no doubt, Aristophanes, Shakespeare, and Planché—all lately in the news—failed to appear; but there have been other dramatists who (I cannot help believing) were in the house. Let me interpolate here that I did notice the part-author of "The Happy Man" at its Westminster première. Since he was also the leading actor, Hugh Williams, he could hardly have been missed; still he, too, conformed to convention, and, paying no heed to an author's call, merely bowed gravely until the house-lights went up, and we had to consider such matters as getting out of an exit blocked by somebody's car.

True, on other nights, I had observed, shrinking in a box or trying to look detached in the stalls, a figure that, physically, did resemble an author. There we had to realise that, by the rules of the game, the man was invisible—just as Oberon is in the Wood at certain performances of the "Dream" (and I am not speaking of the present Old Vic revival) when he is, in fact, so much the most conspicuous person on the stage that we wonder why the lovers do not trip over him.

Dramatists in the contemporary theatre are usually invisible. An author's call can raise the heart on a first night, but the object of the call does not respond to it—or very seldom, though I have known more seasoned dramatists to bow from a box, and to vanish hastily. An author's voice is even rarer: if he does bow, he hardly ever speaks. Possibly it is as well, especially if the call has been "friendly" rather than unanimous. Leading players are similarly discreet. On nights of fierce enthusiasm, with the curtain flashing up and down, and the house, from stalls to gallery, happy about the whole thing, it must take resolution to remain mum. Even so, mum's the word, to the disappointment of playgoers who like to get something extra, and who would be pleased to hear that they had been a Magnificent Audience.

Agreed, little can be said in a curtain-speech that is not an anticlimax. The Shakespearean "Thanks, and thanks, and ever thanks" covers it. If once a leading actor does become grateful—and charmingly so—he may end by running through the entire back-stage corps by name until he has reached, and warmly applauded, the stage door-keeper. And the most rapturous of audiences may find that its applause for even the most gallant of stage door-keepers, a Horatius of his craft, is apt to be a shade forced. Better for the company, according to current usage, to keep calm and silent—after a straight play, certainly. A musical play is different. Here we can be permitted to view the director—thrust on after much protest—or to have the leading lady introduced to us by the leading man, as if we had not been pleasurably in her presence during the entire night. And no musical play is complete without that polite, yet oddly comic, gesture when every member of the cast suddenly stretches a right hand towards the orchestra pit. They are acknowledging the orchestra and its conductor, but it looks like the opening of a dance number.

In musical plays the company has an advantage. It can sing its thanks to us by repeating the principal numbers. A really triumphant première can run on for quite a time. So far this has not been followed in a straight play. I shall be extremely surprised if, say, Mr. Redgrave, at Stratford-upon-Avon this year, repeats Hamlet's death scene in response to the cheering.



"KING CHARMING, OR THE BLUE BIRD OF PARADISE"—THE ANNUAL PANTOMIME AT THE PLAYERS' THEATRE, WHICH CONTINUES UNTIL JANUARY 21: THE SCENE IN WHICH KING CHARMING (JUDITH WHITAKER) KNEELS AND ASKS THE PRINCESS FLORINA (PATRICIA ROWLANDS) FOR HER HAND IN MARRIAGE, WHILE HER FATHER, KING HENPECKT (ERIC CHITTY), AND HER STEPMOTHER (JOAN STERNDAL BENNETT) LOOK ON.



THE OLD MEN TRY TO STORM THE WOMEN INSTALLED IN THE ACROPOLIS: A SCENE FROM THE ENGLISH STAGE COMPANY'S PRODUCTION OF ARISTOPHANES' "LYSISTRATA," WHICH IS AT THE ROYAL COURT THEATRE UNTIL FEBRUARY 8, AND, IT IS UNDERSTOOD, WILL SUBSEQUENTLY CONTINUE IN THE WEST END.

I suppose I have been interested in the question of curtain speeches since hearing a manager (at a long-forgotten theatre) who kept us firmly in leash. At curtain-fall he would appear and tell us, in effect, that we hadn't done very well, that there ought to be more of us in the town than this, and that upper-circle seats were value for money. Everybody must be warned, and at once! At this point, as the curtain—probably terrified—fell with a thud, we could almost hear the order "Dismiss!" and we slunk into the byways, and off towards home, feeling that the eye was still upon us. If those upper-circle seats were not filled during the week, we might be branded publicly next Monday. He was a good fellow and loved the theatre, but

I never lost my awe of him. He returned to mind when Lilian Baylis, on a season's last night at the Vic, would issue a report and tell us, very firmly, that we ought to work hard during the holidays.

Long ago a leading actor would generally say a few words: to affirm, probably, that he was our very grateful, humble servant, something that we were pleased to hear, even if we doubted it. That had a pleasantly traditional sound: it is, like the author's call, one of the traditions we have lost. As I write, early in the New Year, I wonder whether we shall hear anything during months ahead to rank with the famous scenes in the theatre: as when Shaw said "What can two do against so many?", or Wilde came forward with his cigarette in hand, or Coward said it was "still pretty exciting to be English," or William Douglas Home told the gallery that he liked heckling.

I have always admired the managerial resource at Drury Lane on a night in 1779. A farce called "Jehu" was being received so badly that the curtain was dropped in the middle of the second act. The house roared with fury, and the leading actor came out to deliver a "poetical address" that apparently had been kept in reserve for the occasion. It ended with the lines:

Just as Cornishmen flock round a wreck on the shore,
In a trice you're surrounded by critics a score,
Who, while you are struggling in vain to get loose,
Will pluck you as bare as a Lincolnshire goose:

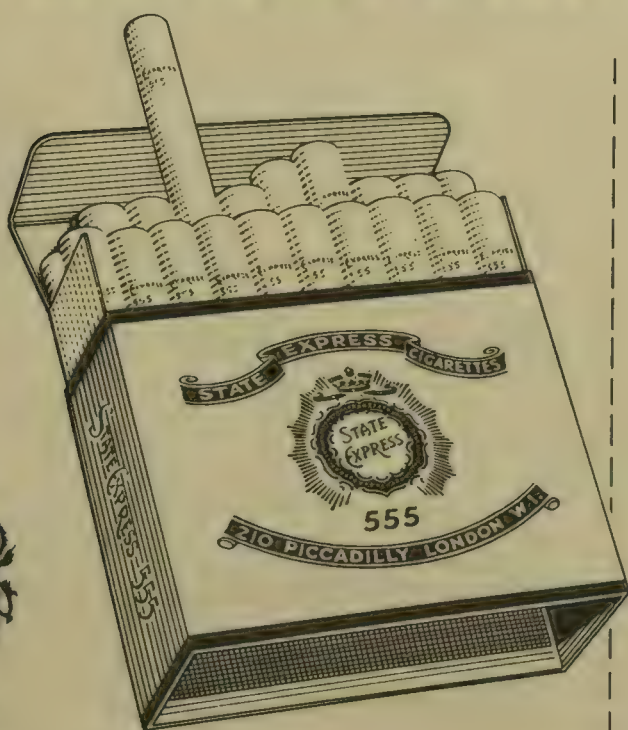
In that case, as you're whips, for one stage I'll agree,
But the devil may drive it a second for me!

Nowadays, no one on our bad nights will drop into verse. I do hold that when it is clear that what Charles Lamb called "the snakes" are in the house, the management should keep its curtain down at the end. A single call can be fatal. Conversely, nothing excites more than sustained cheering when a house is of one mind. There ought to be—and perhaps there is—some kind of code. Thus, at the tenth curtain a "Thank you" is permissible; at the fifteenth, a Few Words; at the twentieth, the name of the stage door-keeper. Cheering can sometimes extend beyond that. Once or twice, at the Old Vic, I have expected Shakespeare to arrive in person. A Shakespearean cast, let me add, can be less gravely composed than it seems to be at curtain-fall. An actor told me that, during the calls, with a train to catch urgently on the last night of a festival, he spent the few seconds while the curtain was down in hastily unbuckling and untying the elaborate upper garments of a friend immediately in front of him. The train, I am glad to say, was caught.

On, now, to our spring season. I doubt whether Tennessee Williams, Graham Greene, N. C. Hunter, and the rest of the dramatists in this spring programme will take any call; but we can look to the nights with hope. Incidentally, I shall be surprised if the angry ghost of Aristophanes does not haunt the Royal Court Theatre during the rest of the year. Why must his heroine be spoken of as "Lizzie-strata"?



The Chief Constable searched



...his pockets, then accepted my cigarette.

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NOTES FOR THE NOVEL-READER.

THE CHOICE OF THE WEEK.

THE spirit of melodrama can take many forms, including the form of solid worth. Whatever one may think of this garb (and for my part, I jib even at worth itself in worth's clothing), "A Cup of Tea For Mr. Thorgill," by Storm Jameson (Macmillan; 15s.), wears it entire—sporting at once breadth of content, psychological subtlety and high seriousness. Underneath, however, we find a romance of crypto-communism at Oxford. The bright, aggressive young parvenu Nevil Rigden, son of an East End labourer, husband of a domineering, blue-blooded Irish rebel, and admiring friend to her adored brother—a physicist with the intellect of a superman and the charm of an angel—has been deceiving his world for ten years. The exclusive, diehard Master has made a pet of him. He has the prospect of a step up. And all this while, his secret dealings with Evil have been mainly platonic. Now he is required to do something—in aid of a dirty little plot involving the sacrifice of a lamb. Rigden happens to know and be fond of this innocent. He resists the scheme—and, on learning with shock and horror that it has gone through, is told to "think dialectically." Whereupon the scales fall from his eyes (to coin a phrase), and for fear of backsliding, he confesses himself to the Master. Some Communists "rat" with impunity, or even *éclat*; the Master's cousin, a mephistophelian sensualist and *poseur*, has just got a book out of it. But it is suicide for Rigden the *arriviste*. If he had any chance, he destroys it by going on to "inform." Yet that, too, was right; and the slide back to his origins may save his soul.

Though the drama is Rigden's, the vision is largely that of the Senior Tutor, a sardonic, heart-broken widower named Gurney, whose two resources are an evergreen passion for abroad, and a "tyrannical curiosity" about human nature. Gurney starts by disliking Rigden for his conceit, then connives with a Czech émigré to make him inform, and then secures him a consolation prize. Into the bargain, he is meant to be vital and deeply interesting in himself; but he doesn't make it, though one can see the point of using a non-Communist in the foreground. And though the novel is meant to be one of ideas, it says nothing fresh. Nearly the whole interest lies in the action, which if not plausible (and a story-teller can't excuse the un-plausible by alleging that it might happen) is professional in its grip. Oxford, by the way, appears as—literally—all rot: but its academic egoists would die of juxtaposition to Sir Charles Snow's.

OTHER FICTION.

"A Cage for the Nightingale," by Phyllis Paul (Heinemann; 15s.), has no European views, and only the most personal contact with reality. The writer may be a visionary—but I am coming to think of her as a nonsense-novelist. There are some on a high plane, far higher than a multitude of the level-headed, and we owe Miss Paul a new world: a weird, magnetic world, thick with atmosphere and adjoining Hell. Evil—with a representative *infâme*—is the speciality. Here it centres in Cannel Farm, perched up on a wall over a plunging lane roofed with trees, and housing a reclaimed murderess. In these very woods, Victoria killed a little girl. She was fifteen at the time. She went to an approved school, then to a mental home; and now Dr. Constantine, the child's father, has secluded her in luxury. Yet he is no saviour, but—*horribile dictu*—a psychiatrist. . . . Once, the *infâme* in point was Catholicism; here it is mental healing—though the Catholic Church, and also "foreigners," get a few knocks. All her life, Victoria has been "treated" for abnormality—the abnormality of a genius; she has been depraved by the coarse handling and gross doctrines of the mental hospital; and now she is in a trap. But what kind of trap, how spell-binding and strangely peopled, and filled with gropings for her old "crime," I can't attempt to convey.

"The Scarlet Goose," by E. M. Almedingen (Hutchinson; 12s. 6d.), is a historical novel with a very personal aura. Martin Ulming, the youngest son of a great German banking-house, was apprenticed to the Hansa in Novgorod because his half-brothers had no use for him. He is not their kind. And when he shows up again as a toy-maker and a married man, they throw him out. So he retires on the Huddle, a nest of brawling, rebellious poor folk outside the gates. His young wife has a gift of healing. All the more for that, they are beset by jealousy and gossip, violence and superstition. But they come through—charmingly, in fact. A naïve yet poetic story.

"The Blind Villain," by Evelyn Berckman (Eyre and Spottiswoode; 12s. 6d.), presents two sisters, and the aftermath of a wicked Will. Mrs. Britton has been dashing herself against it for years. She made the wrong marriage and was dropped: while Julia Tatnall always had plenty. Now these two are back in the old house; and when the trust is wound up, Elise will get nearly everything. If she survives. And if she is Elise Tatnall. But—Mrs. Britton proclaims suddenly—the real Elise died in childhood. This girl is a fraud. The old family home—where there has just been murder—is the scene of action. Not so richly baroque as "The Strange Bedfellow," but uncommonly creepy and distinguished.

CHESS NOTES.

By BARUCH H. WOOD, M.Sc.

AFTER fourteen centuries of chess, there are still new twists in its story.

This new business of parallel games in the same tournament, for instance. Two years ago, in a qualifying tournament for the World Championship at Stockholm, three Argentines chanced to be pitted against three Russians on the same day. Though the tournament was, on the face of it, a contest for individuals, it is quite certain that each nation represented by more than one entrant had trained them together in concert, and that this friendly co-operation continued throughout the event except during actual play.

So nobody was surprised when the Argentines all adopted the same opening attack—it was one which they had worked out together in advance. And when the Russians all adopted the same defence, everybody assumed they had heard about the Argentines' innovation and satisfied themselves, by communal (communist if you like!) analysis, on the best reply.

Very soon it became obvious that the games were not proceeding independently. For the benefit of those who have never attended a chess congress, I must explain that behind each pair of players is erected a man-size demonstration board on which each player's move is duplicated as made, so that hundreds can follow a game which only a handful could observe if they had to watch the actual pieces.

Two of the pairs of players availed themselves of the opportunity of observing what had happened on the other board before committing themselves. The three games took precisely parallel courses for the greater part of the session. "A" would move; "B" and "C" would have a good look at the demonstration board, satisfy themselves they could think of nothing better, then make the same move. Only when it became clear that "A" was getting into trouble did "B" and "C" bestir themselves to individual thought. By then, as history revealed, it was too late; the Argentines lost this little "match inside a tournament" disastrously, by 3-0.

The idea was given a new twist at Hastings this year. When Barden and Clarke sat down to play each other, Keres was tackling his biggest rival Filip further along the line, in a game which could be relied upon to be extremely correct, though possibly ultra-cautious.

Soon the spectators realised that a new twist was being introduced to tournament play. Each time a move by Keres went up on the demonstration board, it was copied by Barden; each reply by Filip was as faithfully duplicated by Clarke. The first game was agreed a draw after sixteen moves. Barden and Clarke, after making sixteen identical moves, played only a few minutes longer before agreeing a similar result.

"That isn't chess!" some will exclaim. Others say "That isn't music!" as they listen to rock 'n' roll; and just about as impotently. Here is (are) the game(s):

RUY LOPEZ.

KERES	FILIP	KERES	FILIP
cum	cum	cum	cum
BARDEN	CLARKE	BARDEN	CLARKE
White	Black	White	Black
1. P-K4	P-K4	6. P-Q4	P-KKt3
2. Kt-KB3	Kt-QB3	7. Castles	B-Kt2
3. B-Kt5	P-QR3	8. PXP	PXP
4. B-R4	P-Q3	9. Q-K2	KKt-K2
5. P-B3	B-Q2	10. R-Q1	Castles
The pin on the queen's file looks hazardous for Black but White cannot exploit it.			
11. QKt-Q2	Kt-Q5!	13. Kt(Q4)-Kt3	Q-Q3
12. Kt x Kt	B x B	14. Kt-B4	Q-K3
15. Kt-B5	would now be answered by 15... B x R!		
15. Kt-K3	B x Kt	16. P x B	
Now if 16... Q x P then 17. R-Q7 equalises. Here Keres and Filip agreed a draw. Barden and Clarke continued:			
16. ...	QR-Q1	20. K-B1	P-KR4
17. Q-B4	R x Rch	21. Q-K2	Q-K3
18. Kt x R	R-Q1	22. Q-B4	Q-Q2
19. Kt-K3	Q-Q2	23. Q-K2	Draw
			agreed.

the most individual of the old Italian city-states. He has failed, I think, to give his readers a full impression of the peace which laps Sienna—outside the festival of the *Palio*—when a visitor can sit outside a café in the main piazza, at about 10 p.m., and realise that he is sole monarch of all that Sienna has to afford.

Tired as I am of books about Resistance Movements, I must add a few words of praise for David Lampe's "The Savage Canary" (Cassell; 18s.). This tells the story of "what the Danes did in the Second Great War," and I found it both impressive and convincing. The success of the persistent Danish teasing of their jack-booted conquerors, in large projects as in small, matches the verve and gusto which they put into their efforts, and together they make this account memorable. The book should almost reconcile the English to the 1000-year-old memory of Danegeld! E. D. O'BRIEN.

BOOKS OF THE DAY.

FROM SIENNA AND ITS ART TO THE OUTWARD BOUND MOVEMENT.

WE are supposed to live in a decadent world, in which all young men are angry, and all the old values are wearily discarded as nonsense. I am happy to find that it is not so. I am more than happy to find that there still exist institutions—eagerly patronised by the young of both sexes—which teach hardship and discipline, the essential training of both character and physique. That is why I hail "Outward Bound," edited by David James (Routledge and Kegan Paul; 21s.), as one of the most heartening publications produced during this winter season. It is not only that H.R.H. the Duke of Edinburgh has become Patron of this movement, and published a short foreword to the book. It is not only that it shows, both verbally and in photographs, young men eagerly engaged in strenuous occupations, whether at sea or climbing mountains. I am quite prepared to concede that these "Anglo-Saxon attitudes," if I may quote "Alice," may appear, to the dangerously intellectual, stuffy and outmoded. Indeed, I have the clearest recollection of similar photographs of the *Hitlerjugend*—chins upthrust, striding legs, eyes seeking wide horizons. But the difference between that mystique and Outward Bound is palpable. It is given by Dr. Stewart Mackintosh, who writes the essay on character training: "One of the best descriptions of an educated people I know was given by Pericles in speaking of the Athenians of his day:

We are lovers of the beautiful, yet simple in our tastes; We cultivate the mind without loss of manliness."

That is what Outward Bound aims to achieve, and has already achieved. A conception was formed in 1936, only began to accomplish itself in 1941, and is now training some 3000 boys and 150 girls annually. It is fully worthy of its originator, Dr. Kurt Hahn of Gordonstoun, and of Gordonstoun's most notable pupil. This is a book which will greatly hearten all those who despair of the rock 'n' roll' young.

It is not—or it ought not to be—a long step from pride in the adventurous youth of Outward Bound to the history of Eton. True, Mr. B. J. W. Hill's "Windsor and Eton" (Batsford; 25s.) deals as fully with the Castle as with the School, but the two are not radically separated. The sad and studious king who founded Eton College enjoyed the Castle as a 400-year inheritance. To-day, we think of Windsor in terms of the Garter Chapel, where so many of our monarchs lie buried, and where the banners of the Knights hang over the stalls of those who have the honour to bear the badge of the most ancient Order of Chivalry still awarded. Mr. Hill tells the old story of Edward III and the Countess of Salisbury (or another), and also that of the Military Knights of Windsor—rather sorrowfully described as "impotent of themselves and inclining to poverty." But that is by no means the sum of his fascinating history of the Castle and the part which it has played in the rise and fall of Royal lines. He recounts with restrained gusto the rebellion at Eton in the days of the great Dr. Keate, when "it was impossible to hear what was being read because of the stamping and yelling, and occasionally the boys would pelt the Doctor with atlases and dictionaries, but he resolutely went on reading his sermons." In the early nineteenth century, "the dirt and filth in college were beyond all bounds," and a request from Collegers that water might be laid on was met with the indignant retort: "You will be wanting gas and turkey carpets next." But it is all too easy to remember these things, and to forget the abiding realities. As Mr. Hill says, "Every country has its wonders, but nowhere in the world is there a counterpart of Windsor Castle or of Eton College, for they are foundations such as only England could have fashioned."

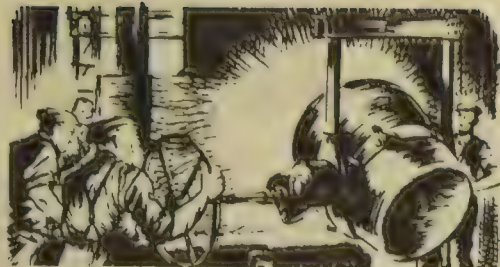
From Windsor to Sienna may seem to be a long hop, especially as none of the traditions of the former can be remotely ascribed to the latter. But Pierre du Colombier's work on "Sienna" (Nicholas Kaye; 35s.), admirably translated by Mary Fitton, is quite as delightful as Mr. Hill's. This is a book which is made by its illustrations. Rarely have there been published such admirable reproductions of the rich Siennese school, which, although they are not in colour, convey the movement and balance of pictures and frescoes almost to perfection. The letter-text is not so good. Perhaps a Frenchman is not ideally qualified to assess the spirit of one of

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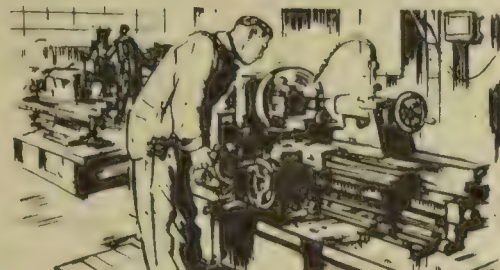
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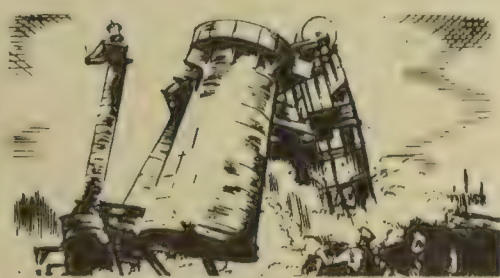
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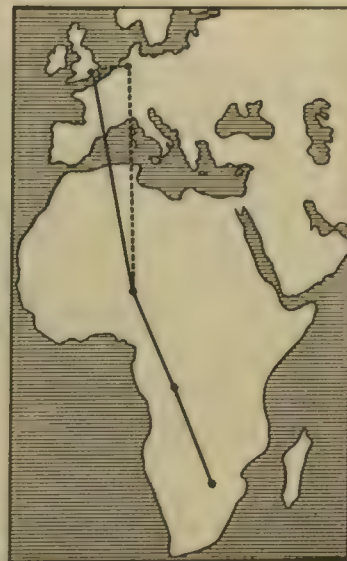
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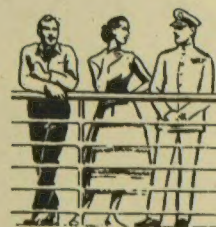
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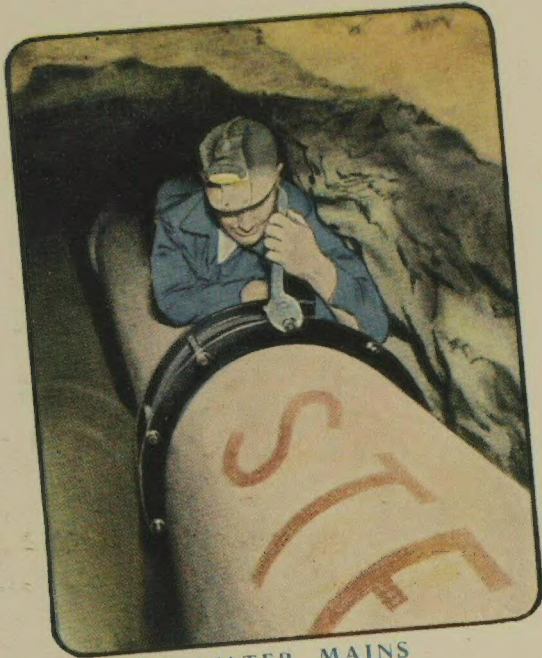
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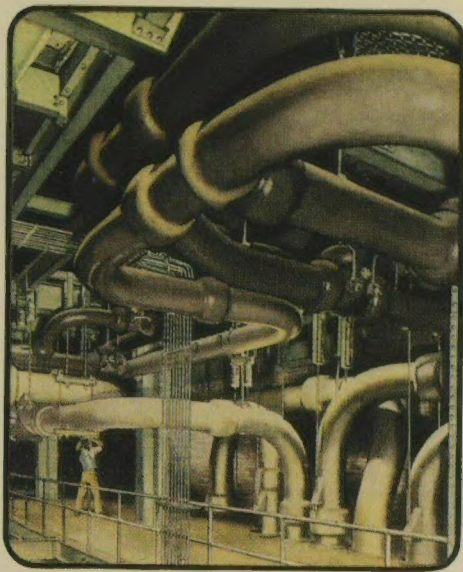
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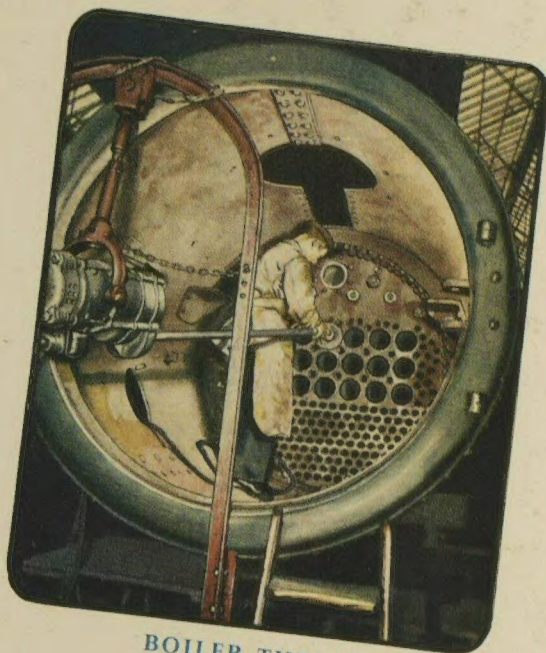


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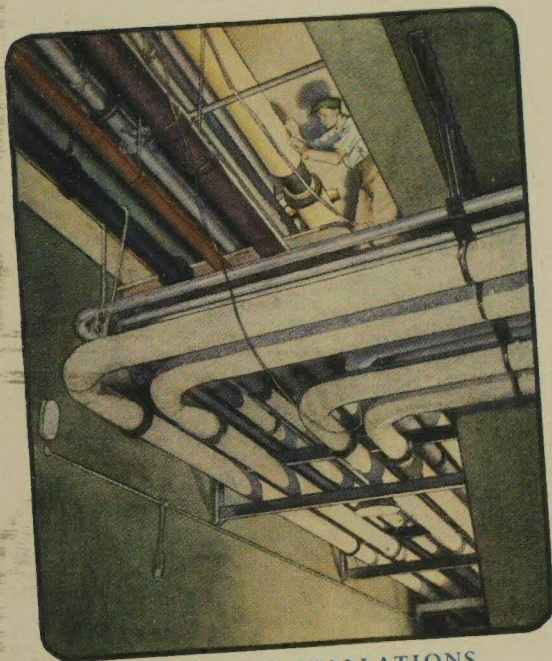
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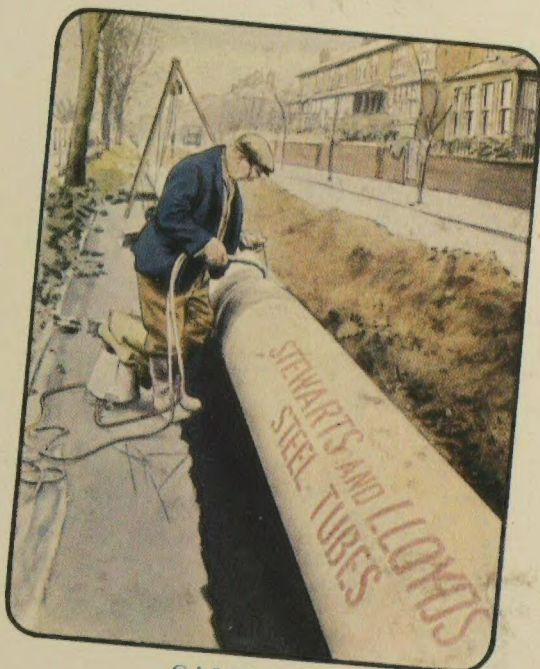
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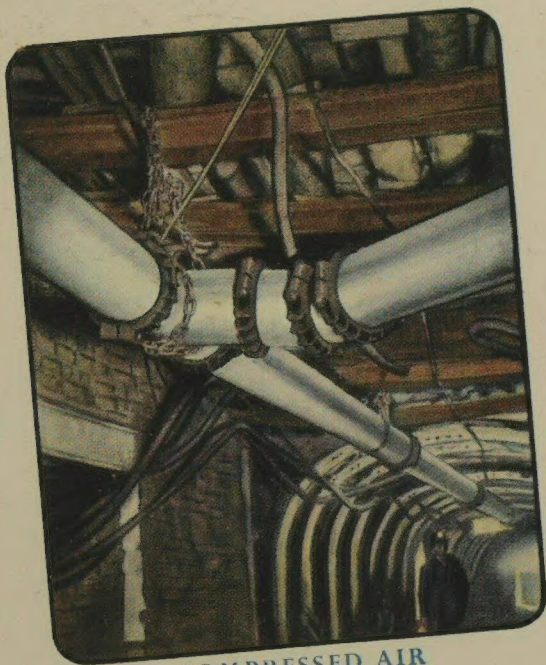
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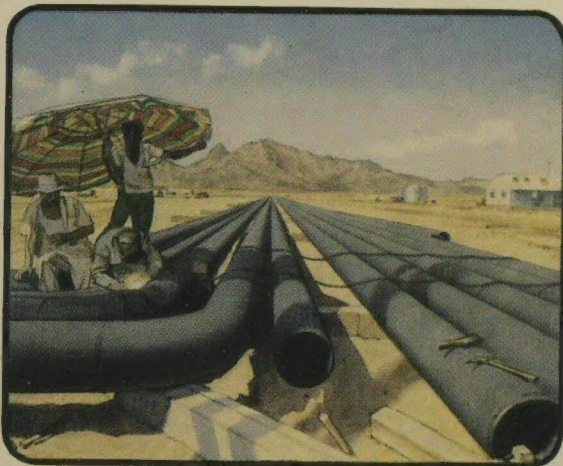
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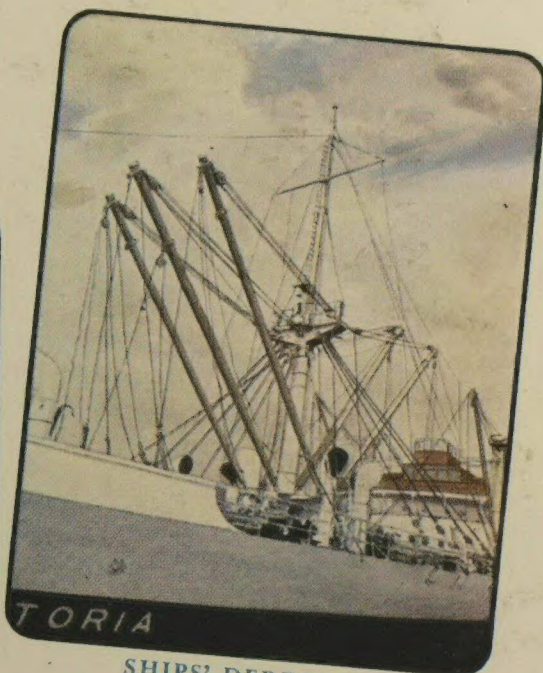
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